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THE

FARMER'S MAGAZINE:

A

PERIODICAL WORK,

EXCLUSIVELY DEVOTED TO

AGRICULTURE

AND

RURAL AFFAIRS:

1807.

Ye gen'rous Britons, venerate the PLOUGH,
And o'er your hills, and long withdrawing vales,
Let Autumn spread her treasures to the Sun. THOMSON.

VOL. VIII.

Edinburgh:

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BOOKSELLERS IN THE UNITED KINGDOM.

1807.

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F2

TO

GEORGE DEMPSTER, Esq.

OF DUNICHEN.

SIR,

ENCOURAGED by the favourable sentiments you have on many occasions been pleased to express concerning the nature and design of the FARMER'S MAGAZINE, I take the liberty of ushering the *Eighth Volume* of that Work into the world under the sanction of your name and authority; and should my humble endeavours to discharge the duties of the office entrusted to me fortunately meet with a continuance of your approbation, I shall confidently expect the like support from the great body of British Agriculturists hitherto experienced in an eminent degree.

To persons acquainted with the history of the British empire for the last forty years, it is scarcely necessary to urge a single word concerning your laudable and unwearied exertions to promote every measure which had for its object the improvement of the trade, manufactures or agriculture of these isles. To these branches of national economy, you constantly devoted the strictest attention; and if the records of Parliament are consulted, your name will be found in every debate or proceeding which took place on such subjects, during the period you acted as a member of that August Body. Though friendly to a political party, under whose banners men of the most distinguished abilities arranged themselves, yet in every article of business connected with trade and improvement which came under consideration, you took an active share, whether originating with your friends or with your opponents. It was enough to you, as it will be to every honest member of Parliament, that the public good was advanced; and this being accomplished, it mattered little who received praise, provided the public received benefit. In short, your conduct in

Parliament may be characterized as that of an independent mem ber, who discharged his trust with faithfulness and integrity and happy would it be for the British empire were all its Senator to imitate the meritorious example which you furnished.

The more I reflect upon the character of the personage unde whose sanction I introduce myself at this time to the public the more I am satisfied with the propriety of my choice, an the measure of success which may reasonably be expected t follow from such distinguished patronage. Your liberal prin ciples have been long so extensively recognized, your desires t benefit society so ardent and conspicuous, and your endeavour to advance the public welfare so often displayed, that every per son in the slightest degree acquainted with these matters, mus acknowledge that your favour is a tower of strength to those o whom it is bestowed. To say no more, a work of this kinc honoured with your support, cannot be viewed by the public a undeserving of notice, but, on the contrary, stands a fair chanc of obtaining general support and protection.

Accept, Sir, of my sincere and hearty thanks, for the re peated instances of attention you have kindly bestowed on m and permit me to request a continuance of your regard whe executing this volume. That a kind Providence may long pre serve you as an honour to Scotland, and an example to you contemporaries; and that your future days, like those that ar past, may be spent in fulfilling the duties of benevolence an universal philanthropy, is the ardent wish of him, who has th honour to be,

With unfeigned respect and esteem,

SIR,

Your faithful Servant,

THE CONDUCTO

THE FARMER'S MAGAZINE:

FEBRUARY 1807.

(No. XXIX.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Observations on Dr Coventry's Pamphlet on Live Stock.

SIR, *Barmoor Castle, Northumberland, Dec.* 8. 1806.

SOME time ago, I heard of a pamphlet published in Edinburgh, entitled, 'Remarks on Live Stock,' by Dr Coventry, the Professor of Agriculture, which I have lately perused with much attention. I find from the preface, that the author was induced to give these remarks to the public, from a wish of republishing, in Scotland, a pamphlet by that eminent surgeon Mr Cline, on the 'Formation of Domestic Animals.' Conceiving Mr Cline's observations to be of the *greatest importance*, and finding that this pamphlet was not to be procured in Edinburgh, he therefore publishes such excerpts from it as he thinks most deserving of attention, and concludes with some remarks of his own.

Now, Sir, very different were the sensations which this pamphlet of Mr Cline's caused in me; for, so far from wishing to recommend to the public, I did all I could to suppress it; and if I had not found it little known, except to eminent breeders, to whom such doctrines could do no harm, I should certainly have stated my objections at the time it was first published.

So far from wishing to throw cold water on the exertions of any one in the cause of agricultural improvement, I trust the world will allow me the credit of doing every thing in my individual power to promote and encourage them. Sure I

am, that, on most subjects connected with agriculture, I know few men whose opinion I should pay more deference to than Dr Coventry's; but, on the improvement and management of live stock, (even if he had not published these Remarks), I could not so easily submit to him. I indeed acknowledge with pleasure, that no man has paid more attention to agriculture, in the strict sense of the word, than he.

'Quid dicam, jacto qui semine commipus arva
Insequitur, cumulosque ruit malè pinguis arenæ,
Deinde satis fluvium inducit rivosque sequentis;
Et, cum exustus ager morientibus æstuat herbis,
Ecce! supercilio clivosi tramitis undam
Elicit? illa cadens raucum per levia murmur
Saxa ciet, scatebrisque arentia temperat arva.'

In Scotland, he is in the very garden of agricultural improvements; though there is hardly a district where breeding is in any way attended to, and none, that I know of, (leaving Tweedside out of the question), where a systematic plan is carried on, except in the West Highlands. There, indeed, I was surprised and gratified, but not satisfied. I saw improvements carrying on, beyond any idea I could form on the subject. The Duke of Argyle, Mr Campbell of Shawfield, Mr Malcolm of Duntroon, Mr Macneil of Colonsay, and many others, are doing wonders;—in fact, turning a chaos into a new world. I should be wanting in candour, were I not to mention the island of Islay in particular. I there saw, under Shawfield's management, crops equal to any in East Lothian, not on hundreds of acres, but on thousands. Yet there was *that something wanting*, that *close attention*, without which, in my opinion, no breed of animals can be brought to perfection.

If this catches the eye of a South-country breeder, he will be surprised when I tell him, that at all these noted places, so long famous for the breed of black cattle, it is almost impossible for their cow-herd to tell you whether such a cow is in calf to a red bull or a black one, or if she is to calve in November or the January following. I hardly saw a herd of cows without two, sometimes three or more bulls amongst them. Some few they may be rather more particular with—I am only speaking of the general custom.

All they seem to aim at is, to breed them of the largest size, and, consequently, what they term the strongest. That this breed is the most profitable of any, and can be brought to the greatest perfection, I have not the smallest doubt; and, for that purpose, have selected a few of the best, which, under improved management, will shortly speak for themselves.

I beg pardon of my Highland friends for these observations, and doubt not they will forgive me.

But to return to my subject. Confident as I am, that no man understands the anatomy of the human frame, or even of animals, better than Mr Cline, still I have no idea that a surgeon, constantly employed in London and its environs, can be a proper person to interfere with a study of such national consequence as the management and improvement of live stock; for, I verily believe, his farm stock consists of a pair of job-horses, a couple of hacks, and, possibly, a terrier or coach dog. Of *dead* animals I am mute.

If a man of the undoubted talents of Mr Cline would turn his attention to the diseases of animals and their cure, then, indeed, would I allow him every credit, and be the first to acknowledge my obligations.

Although many of Mr Cline's observations, and Dr Coventry's remarks, are replete with ingenuity, still they are by no means applicable to the present system adopted by eminent breeders and graziers. They contain opinions that have long since been exploded; and had either of them lately visited any of the breeding counties in England, they would have found how erroneous were the ideas they had formed.

Mr Cline says, page 13th, speaking of horns, &c.—

'To those who have not reflected on the subject, it may appear of little consequence whether sheep and cattle have horns; but, on moderate calculation, it would be found that the loss on farming stock, and also in the diminution of animal food, is very considerable, from the production of horns and their appendages, viz. a *thick skull.*'

Now, I must confess, I should be sorry to allow myself to be called one of the *horned race;* but still my skull is so thick, that I cannot find out the smallest ingenuity in this argument, without he meant it as a pleasant story to amuse the ladies, or some unfortunate reader of his book, who may not think a treatise on live stock over-entertaining.

This may be the *fanciful* idea of an anatomist while dissecting a skull, but of neither the grazier nor breeder. The largest sheep, I allow, have no horns; but the case is different with cattle. *Vide* Hereford, Teeswater, Leicestershire long horns,—and last, though not least in value, my friends the West Highlanders; which breeds, with all their horns, length of hair, and thickness of hide, fatten sooner, and on less food, than any other.

Mr Cline forgets, that if such a hornless race of animals were to be generally propagated, we should have as great a want of handles for knives and forks, as there would be for a leg of mutton, and a coat for a poor man's back, were the Marino sheep to turn out of repute our breed of Leicesters.

Again, page 17th, Mr Cline, on 'improvement of form and breeding animals of the same family, *alias* in and in.'

'It has been generally ſuppoſed, that the breed of animals is improved by the largeſt males. This opinion has done conſiderable miſchief, and would have done more, if it had not been counteracted by the deſire of ſelecting animals of the beſt form and proportions, which are rarely to be met with in thoſe of the largeſt ſize. Experience has proved, that croſſing has only ſucceeded, in an eminent degree, in thoſe inſtances in which the females were larger than the males. If a well formed, large ram, be put to ſmaller ewes, the lambs will not be ſo well ſhaped as their parents; but if a ſmall ram be put to larger ewes, the lambs will be of an improved form.

'The ſize of the fœtus is generally in proportion to the male parent, &c.; and therefore, when the female parent is diſproportionally ſmall, the quantity of nouriſhment is deficient, and her offspring has all the diſproportions of a ſtarveling.'

He might as well affirm, that a French *petit-maître* and a Musſelburgh fish-wife would have a handsomer family of children than a stout athletic Highlander and a beautiful little woman.

But, if this were the case, what would be the consequence of breeding *in and in*, which is a custom much adopted of late, instead of crossing? The time would shortly come, when, by his own doctrine, the produce would be increased in size; and, upon a man selecting a ram bred from his own flock, and putting him to that flock to breed again, he would be rejected. His own parent might say, 'Oh no! you are too big for me; I must have a small husband; your fœtus will be too big for me to nourish;' so that, in the end, you would just land where you set out.

If this is the true plan of breeding, why do we all pay so much attention to have our male stock in the highest perfection, of the most robust constitution, although, at the same time, with every symmetry of make? Did the author ever hear of a Leicestershire breeder shewing his ewes in preference to his rams and talking of them as the first thing to be attended to? Did ever see the produce of a small Highland cow and a Teeswa bull?

I shall conclude this already too extended epistle with a rem of Dr Coventry's. (p. 72.)

'In ſome diſtricts, as in Berwickſhire and Northumberland, he ſtrikes home), the beſt paſturage is *invariably* given to the age what then ſhould be the fattening ſtock. Neither, excepting purpoſe of improving a portion of the ſtock to breed from, wo right to *pamper* them when young, becauſe it would be throwi what could be more profitably expended otherwiſe. The qu good aliment neceſſary to fatten an animal when young, is fou

much greater than what would be sufficient to do this when it is more advanced in life.'

In answer to this, I positively affirm, that all the best graziers and breeders in the two *quoted* counties, are striving who can *first* bring their stock to market; and the universal toast is, *early maturity.*

Now, I deny the possibility of bringing early stock to market, if you do not, from the hour of weaning them, give the best pasturage, and every indulgence in your power, which are the only means to keep up that *condition, or fat,* they receive from their mother's milk, and which, if once lost, cannot be regained for many months in sheep, and even years in cattle. 'Starve an animal when young, and you will lose a year.'

I have thus, Sir, taken the liberty of pointing out what I conceive to be errors in the opinions of these two authors; and should you think my arguments well founded, and worth the attention of the public, you will do me the honour of inserting this letter in your next Magazine.

I am, Sir, your obedient humble servant,

FRANK SITWELL.

FOR THE FARMER'S MAGAZINE.

Essay given in to Eddlestone Club, 8th August 1806, *on the Thirlage Act.*

THE question proposed for this night's debate is, *What are the reasons which have prevented the Act* 39*th of Geo. III., for Commutation of Thirlage, from being commonly, if at all, acted upon?*

When we consider the universal outcry against thirlage, which, in fact, was the cause of the application to Parliament for its commutation, it might have been presumed, that not a moment would have been lost in claiming the benefit of this act; and, now, when seven years are elapsed since it was obtained, that not a vestige should have remained of this obnoxious grievance; more particularly, when we consider the simplicity and unexpensive nature of the process required to obtain redress,—by an application to the Sheriff of the county,—and through the equitable award of a jury. And yet, true it is, that not one application has been made for the benefit of this act to the Sheriff of this county; nor any where else, so far as I can learn.

Whence can this have happened? Is it owing to any deficiency in the act itself? In that case, the influence of the Highland Society, through which it was originally obtained, might

easily procure an amendment. If it is owing to no deficiency in the act, it would then seem that the grievance proposed to be redressed had been purely imaginary, and that an act of Parliament upon such a subject was nugatory, and ought not to have been applied for.

It is worth while to consider the nature of the supposed grievance of thirlage, and of the act intended for its redress, in order to discover the reason, if possible, why, since the passing of this act, matters continue upon the same footing as before the enactment.

The following essay shall be thrown into the form of a commentary upon the act.

Preamble to the Act.

In the preamble, thirlage is represented *as being found, in experience, to be very unfavourable to the improvement of the country, by checking the industry of the occupiers of the ground, and by occasioning troublesome and expensive litigation.*

1*st*, Thirlage is here represented as *checking the industry of the occupiers of the ground.*

Upon this head, it may be observed, that whatever tends to harass and disquiet an industrious man, and to render him dissatisfied with his situation, has an evident effect to dispirit and depress his industry.

We have all had occasion to observe the dispiriting effects of domestic disquietudes. A sulky, discontented wife, continually grating upon the feelings of her husband by the asperities of her temper, instead of encouraging him by cheering looks and complacent manners; or, an idle profligate family, dissipating his earnings in extravagance, and rendering all his labours for their welfare vain; such sources of disquietude have often entirely damped the industry of the head of the family, and driven him to the alehouse for relief. For such domestic checks upon industry, an act of Parliament, in all its omnipotence, can indeed afford no remedy; and what cannot be cured must even be patiently endured.

The power of Parliament can extend only to the constitution of civil rights. But, though morally limited to the bounds of *what is right and fit*, it is certainly paramount to the regulation, or to the absolute dissolution of all such rights as rest, for their support, merely upon *the authority of positive law*; under which description may be comprehended thirlage, together with all other exclusive rights to employment, and all exclusive privileges of monopoly.

Wherever a manufacturing or commercial enterprize is no

that extent of magnitude as absolutely to require the advantage of monopoly to carry it on, every monopoly granted may well be considered as a grievance. It oppresses those that are without the pale of the monopoly, in excluding their industry, in contradiction to liberty, from that channel over which the monopoly is erected, and makes the articles comprehended under the monopoly come dearer to those that need them. Neither do the advantages to the privileged keep pace with the disadvantages accruing to those excluded; for the security of those who rest upon their exclusive privileges, has a natural and necessary tendency to slacken industry and enterprize, by removing that free competition which is the natural stimulant to exertion; accordingly, monopolizing companies have never been observed to thrive remarkably.

This reasoning is of very extensive application. Let us apply it, at present, to all exclusive rights to employment, of which thirlage to mills is one particular instance.

In every species of industrious employment, where the object to be gained is merely profit, and not high fame and reputation, the only effectual enforcement of diligence and honesty, is the necessity of pleasing employers in order to secure the continuance of employment. Remove this keen spur of interest, and there remains no other stimulus to exertion, but the mere conscience of duty. Now, however highly I conceive of the dignity of human nature, and highly as we may have seen it exemplified in a few particular instances, I would trust much more for its proper display, when the excitement of a great name, to be obtained in particular situations, or of interest, properly so called, in situations of obscurity, concur with a sense of duty to enforce that display, than where there exists no further excitement than a mere solitary sense of duty. I would, in short, trust more to men's acting aright, when placed in such circumstances that they *will do so*, than when so placed that they merely *ought to do so*. Regulations and laws which merely *ought to be observed*, never will be so punctually attended to as those which, as we say, *execute themselves*.

Let us apply this reasoning more particularly to this particular species of exclusive right to employment, thirlage to mills. The privileged miller, no doubt, *ought, in conscience*, to give satisfaction to all equally that employ him, whether they are free to leave him merely upon their dissatisfaction with his work, or whether forced to abide by him, satisfied or not, with no security but that of recovering such damage as they can *legally instruct* themselves to have sustained through his negligence or knavery. But, *will he do so?* Would any one consider himself as sufficiently

ently secured of the miller so doing, though he had no other tie upon him but merely that of his own conscience? Would there be no just ground of suspicion that the miller might listen to the suggestions of the devil, and persuade himself, that a too rigid and scrupulous adherence to justice, would convict him of the *legal spirit* of aiming at justification by good works? In his obscure situation, we cannot expect that a mere manufacturer of grain should be excited to a complete fulfilment of duty, far less to a supererogation exceeding all ordinarily experienced measures of fulfilment, like a Pitt or a Nelson, through the lofty ambition of a high and lasting renown. This interest, properly so called, is the only stimulus to exertion, which in his obscurity can reach him, to quicken the otherwise more languid sense of duty; and his *lasting interest* undoubtedly must be found in obtaining a constant sufficiency of employment, which, where absurd regulation intervenes not, must depend entirely upon the satisfaction given to his employers, by his skill, industry, honesty, and obliging manners. Establish a free competition, and these are of course secured; convey an exclusive right to employment, and the matter rests entirely with the miller's conscience; in the first instance, he is under a law *that executes itself*; in the other, he is under a law *that ought, indeed, to be observed*, which is the utmost that can be said as to the security of its observance.

Theory, founded upon merely collateral experience, in strongly analogous cases, may, without precisely identical experience, be considered as verified in fact: but here, both theory and identical experience, concur in constituting thirlage a grievance. The sauciness, the disobliging, unaccommodating behaviour of millers, resting sullenly secure in their exclusive right to employment, to all those under their thirle—their needless waste of the time of such bonded employers, in unnecessary attendance, which might often be spared by attention to their accommodation—their careless waste of their grain, and regardlessness of the perfection of its manufacture—in short, their literal confinement of their exertions for such customers, to such limits as shall merely clear them of the lash of the law for gross negligence; or even the sly purloining of such portions as may escape legal detection, under security that mere suspicion of such practices will not entitle the bonded employer to withdraw his custom. All these sources of grievance and vexation to the occupiers of adstricted lands, have been long and loudly complained of. Such vexations in this forced and uprofitable manufacture of the produce of his industry, are highly discouraging to the occupiers of ground, and constitute a sufficient reason why this act for commutation of thirlage should have been applied for.

2*d*, In the preamble to the act, thirlage is further characterized, as *occasioning troublesome and expensive litigation.*

Besides the constant vexatious suspicion in the thirled person, that he may come to loss through the negligence, or even dishonesty which the privileged miller may securely practise, without fear of losing employment; cases may also occur, where the waste or abstraction may be so glaring, through the smallness of return from the mill, as to convert this suspicion into certain belief. But a process for forfeiture of the right of adstriction, would not have been competent, even upon the footing of such lesion, however gross, or however capable of the clearest legal instruction: All that could have been obtained, even upon supposition of a successful process, would have been merely indemnification for the loss sustained in that instance, if originating in mere negligence; or the hanging of the miller, if it occurred through fraud; and the adstricted person must have contented himself to continue being subject to the like risks as before. Meanwhile, to instruct the negligence which might have been triumphantly displayed by the privileged grain manufacturer, in the insolent use of power, or the dishonesty which might have been practised by an arch rogue, who, with the fear of the gallows before his eyes, had dexterously guarded his practice against every mode of legal detection; such instruction might, indeed, have occasioned much troublesome and expensive litigation, which, too, might probably have proved ultimately fruitless. Against the depredations of other plunderers, men secure their property by preventing it from ever getting into their possession; here, the depredator is invested in a legal title, to become custodiary of the goods from whence he means to purloin. Indeed, in all cases where there is no power of prevention of damage by precautionary measures of security, the mere certainty of redress, where damage can be legally instructed, gives but a frail assurance to the inviolability of property.

The extent of the right of adstriction might also prove a fertile source of troublesome and expensive litigation.

Supposing, for instance, in the original constitution of a thirlage, that a barony was thirled, in general, to a certain mill, *for all the meal consumed in the whole families residing upon it*; that, for long use and wont, a given number of families had resided upon it; but (which is the most common supposition) that, in consequence of better farming, the number of families had been reduced, by the union of small farms; shall the extent of grain obliged to be manufactured at that mill continue to be as large as what used formerly to be manufactured? or shall it be circumscribed, by a literal interpretation, to that much less quantity

tity now *consumed* by the smaller number of families? C verse the supposition to that of a still more minute subdivis farms taking place (in consequence of manufactures, and t mand of carters and carriers) than what prevailed at the nal constitution of the thirle, shall it suffice to manufact much grain as was wont to be manufactured? Or shall t clusive right of manufacture be extended over the larger tity now *consumed*, by the increased number of residing lies?

But, further, it is commonly supposed, and as I believe that land laid off for grazing or meadow, is no more sub thirle, than fattening pasture grass, or its produce, is to titl England. Would it then be in the power of the proprieto an adstricted barony to defeat the thirlage entirely, by conver his lands into pasturage? Or, suppose the thirlage (which common enough constitution of it) to extend to *all oats gr upon the barony*, with exception merely of seed and horse c and that, in regard to the grains of bear and peas, it extend farther than *to what is consumed by the residing families*. A tem tion is here presented, to the proprietor of the adstricted land defeat the extent at least of the thirlage, by substituting (in s ing off his improved outfields for pasture) a crop of beer, which such lands are very unfit, to a crop of oats, to which are much better adapted; and, indeed, I have known such husbandry adopted in fact by an adstricted proprietor, emulo and to his own hurt, through the grudge of allowing the prietor of the thirlage to participate in advantages to whicl had contributed nothing: is there, in such case, no claim for stracted multures? Or would the law, in order to vindicate profits of the proprietor of the thirlage, deprive the other prietor of option, and enforce upon him, against his will, is supposed a better mode of cropping?

From these specifications, it will readily appear what a sul of litigation thirlage might prove; and, if it did not give to actual lawsuits, what a fertile source it may be of litig practices.

Inferior causes of litigation might arise;—from the mill b out of repair in its machinery, or incapable of working f scarcity of water, when service is applied for by persons thir and the question of the time they are obliged to wait, such application, before they can be justified in applying to other mill for service? Whether the privileged miller is li for the spoiling of grain, in a wet harvest, if not immedi manufactured at a call, and how far the prevention of such might justify the giving the employment to other mills?

ther thirled persons are always obliged to turn out, at the call of the miller, to repair dam-dikes, mill-leads, &c. and how far necessary farming operations may not justify them in resisting such a call?

Method of Redress.

Having considered the nature of the grievance, as stated in the preamble, I shall proceed to state the mode of redress provided by the act.

There are three modes in which a thirlage may be constituted; two of them to perpetuity, and one of them temporary. 1st, The perpetual proprietor of one landed estate may have the lands of another perpetual proprietor adstricted to his mill for perpetuity; and one or both of these proprietors may hold their lands upon the restricted tenure of entail. Where either or both estates are held upon entail, it would be incompetent for the proprietors, by private bargain, to make a commutation of the thirlage, which would be valid against the challenge of the succeeding heir of entail. Here, therefore, the interposition of the power of an act of Parliament is indispensable to give validity even to an optional commutation or purchase of the right of thirlage. 2d, The lands of one estate may be adstricted for perpetuity to the mill upon another landed estate, where both proprietors enjoy the full property of their lands unfettered by entail. In this case, it is evidently completely competent to the proprietors, without the smallest need of the special powers of an act of Parliament to that effect, to make a valid bargain, by their own private agreement, either as to the commutation or sale of the thirlage. Here, then, the interposition of an act of Parliament is only necessary to give a power of compulsion to the consenting party, against the party refusing to enter into an agreement. 3d, There is a temporary constitution of thirlage, where the proprietor of an estate adstricts the tenants of his own estate to his own mill, during the currency of their temporary tenure of lease, with the view, it may be, of thus making sure of a proper annual return for his expense in erecting his mill, or, as is supposeable enough, of thus slily catching a rent from his tenants, in a way less apparent to them, and of which they shall not be aware in making offer of rents for their farms. This is by far the most prevailing mode of thirlage. But, for relief under this constitution of thirlage, the act has given no remedy. Parliament, perhaps, in a too liberal mode of construction, has trusted to the good sense of landed proprietors themselves, for the abolition of this preposterous bondage of their tenants, and, mean time, has deemed it disproportionate to interpose their authority, in providing a perpetual remedy for a grievance, which, as common

sense

sense prevails, ought speedily to redress itself: or, prob
is conceived to be indelicate or inexpedient to interfere
shape with the free command of private property, eithe
use or abuse. Where then a private proprietor so ple
may still, notwithstanding of this act, impose upon the
who lease his own lands, the bondage of thirlage, to w
extent, to his own mill; thus compelling them to ent
custody of their produce to a privileged manufacturer, s
being employed, whether he gives satisfaction or not, a
whose negligence or dishonesty, in the waste or pecul
their goods, they have no check but legal instruction; 1
upon legal detection, that security for the future, so ob
other cases,—a dismissal from employment.

This act only applies to the two first cases of the con
of thirlage. In these, it does not apply to enforce a sal
privilege. It applies only to enforce a commutation into
valent annual payment; and, to prevent inequality thr
depreciation of money, the payment is rated in grain.

The form of process for obtaining the benefit of this a
bundantly simple and unexpensive. Application is made
Sheriff of the county, whose powers are enlarged for the p
and the application is equally competent to either party,
the proprietor of the servient or dominant tenement. If
and the lands adstricted to it lye in different counties, th
cation must be made to the Sheriff of that county within
the mill is situated; and the Sheriff, after taking in the ev
hinc inde, remits the whole to the cognizance of a Jury;
constitution of which, he chuses twenty-one men of the
who must all either rent lands to the extent of 30l. of
least, or be possessed of landed property valued to the ex
30l. Scots in the cess-books, of which twenty-one the pa
ternately reject one, till the number is reduced to nin
these nine ascertain the value of the thirlage, and commu
to a perpetual annual payment in grain. The tacksman
mill is obliged to receive, and the adstricted tenant to p
commutation, during the currencies of their respectiv
The commutation grain is laid upon all the adstricted ten
proportion to their rents, unless objected to by tenants
at least one fourth of the whole rent, when it is remitte
Jury to apportionate the payment to the best of their ju
In order to avoid all disputes as to the quality of the comm
grain, the price of it is to be paid in money, accordin
fiars for the year. The verdict of the Jury must be re
within sixty days; and it becomes final in three years
date of the registration.

This mode of redress seems equally simple and unexpensive, as the Scots mode of obtaining division of mixed landed property, which, in England, is a matter of great expense and intricacy. The question then recurs, why has this act never been as yet put in force? This leads me to consider,

The reasons why the benefit of the act is not applied for.

The wind of a cannon ball has been said to prove mortal, even where it did not strike; and one reason suggests itself, which may be thought to evince the advantage of the act, even though it should never in fact be carried into execution in a single instance—' that the grievance, from the conscious power of shaking it off, may *appear*, in imagination, more tolerable to those subjected to it; and that it may *in fact* also, under the same consciousness, be imposed more lightly by those who have the right to impose it.'

Another reason occurs, in the intricate nature of the valuation of a thirlage, which it might puzzle the heads of half the sheriffs of Scotland to unravel, even taking, as assessors, the whole of the good men and true, of 30 pounds of rent, or 30 pounds of valuation. Upon what principle would it be possible for them to ascertain the value of a right, which (according to the circumstances in which the lands over which it extends may be placed, and over the production of which circumstances it possesses no power of controul) may, as already stated, be in any proportion *worth more*, or *worth less*, or *worth nothing?*

Application for a commutation might be made by the proprietor of the mill, whilst the servient's lands were, as yet, in minute subdivision; and would it be fair to entail upon the latter this highest stretch of girst? Or, the servient might apply after his lands were all laid out in permanent pasture;—how proceed in this case?

Another puzzle would necessarily occur in every case, as to the value of the purchase of this said subject, of the most subtle airy tenuity, though the very mention of its name rouses us to ardour—*liberty in the abstract.* A thirty-second part of the produce is, in this county, and, I have reason to believe, throughout Scotland, the ordinary rate of multure, where the employer is not bonded under thirlage. This, therefore, may be considered as the real price of the manufacture of grain: for though it hath been the same for time immemorial, yet, being a grain payment, it hath not suffered depreciation, like rated money payments; and though machinery is, of late, more improved, and more expensive, the superior execution of such improved machinery may well be supposed (as in all other cases) to make its productive operation come cheaper, instead of dearer. Assuming, then, a

thirty-

thirty-second part as the real price of manufacturing grain, it evident, that where the bonded rate of multure of adstricted gra exceeded that of free grain, in a commutation, the value of th excess should be allowed to the whole extent of the adstrictio But after allowing for this excess, ought or ought not any thir more to be allowed for emancipation from the obligation of m nufacturing the adstricted quantity, at the remaining ordina price of manufacture? For instance, we shall suppose that t adstricted quantity of oats, which, by the thirlage, the thirl lands were found by the Jury obliged to subject to the man facture of the thirled mill, (if, indeed, it were possible for Jury to ascertain, in any one instance, the extent of any giv adstriction), were 128 bolls; then there is no difficulty ascertaining, that the rate of multure for this adstricted qu tity was one sixteenth, or double the ordinary price of mar facture, *i. e.* 8 bolls; it is evident, that, upon a commu tion, the proprietor of the thirlage must be found entitled 4 bolls annually; but, in regard to the other 4 bolls, the usu price of manufacture, is he entitled to the whole of it, in cons deration of relinquishing the privilege of the exclusive right c manufacturing the adstricted quantity at that rate? In that cas if it is manufactured elsewhere, it will pay three times the ordi nary price of manufacture in possession of liberty, instead c double price that it paid under thirlage. Or, as the cessation c obligation to employ his mill does not imply any prohibition a gainst employing it, shall he receive nothing at all of the said bolls in lieu of quitting the exclusive privilege of manufacturin the 128 bolls at that rate? In that case, (rates of manufactur being the same), the exclusive right of manufacturing is wort nothing, nor is liberty of choice of manufacturer worth any pu chase money. Or, is liberty of choice of manufacturer an u alienable privilege, that could never have been, but injuriousl taken away; and which therefore ought to be restored witho compensation?

I apprehend these puzzling difficulties, both as to the asce taining the extent of grain to which the thirlage reaches, (eith taking the thirled lands in their presently existing circumstance which might obviously be injurious to the one or the other of t parties, or averaging the medium of their existing, past, and su posable future circumstances, which would be extremely dif cult), and as to the inexplicable value of liberty in the abstra must have rendered, and will continue to render, proprietors e remely shy in committing their respective rights to the opini of a Jury, which must float in the *mare magnum* of darkness a uncertain

uncertainty, without star or compass of any fixed principle to direct it. In the words of Hamlet,

> ——————— *'there's the respect*
> *That makes calamity of so long life,*
> *And makes us rather bear those ills we suffer,*
> *Than fly to others that we know not of.'*

Unless fixed principles shall be laid down in the act itself, by which Juries are to regulate their determination, I am disposed to think that any act that shall be passed upon this subject, will ever prove, as this has proved, nugatory.

Upon the reform of any practices that are oppressive, those that are deprived of the benefit of the oppression must submit; nor does it appear necessary, in many instances of this sort, that any compensation should be made for the relinquishment of the right to oppress. Perhaps, in this view, mere liberty should pay no purchase. F.

NOTE BY THE CONDUCTOR.

It is unnecessary to add a single word to what our able and ingenious correspondent has stated upon the thirlage act, except to notice his error, in supposing that it has not been carried into execution in a single county in Scotland; the contrary of which may be seen, by consulting our Supplementary Number for December 1803, where two instances which occurred in Ross-shire are noticed. We perfectly agree with him respecting the inefficacy of the act to accomplish its *avowed* purpose, though we are equally clear that it has *indirectly* accomplished a great deal of good to the country. On the estate where we reside, thirlage has been voluntarily commuted into a money payment, in consequence of an agreement betwixt the whole tenants and the millmaster; and we have cause to know that the like plan has been adopted in numberless other instances. Thirlage is a remnant of feudal servitude, which, like tythes, ought to be universally abolished. In the rude stages of society, both were probably expedient and necessary, because the want of a circulating medium rendered payments in kind absolutely indispensable; but under existing circumstances, where society is enlightened, and the principles of trade understood, these ancient practices should be abrogated entirely, and the very words, which conveyed ideas of their meaning and import, buried in oblivion, as useless to mankind, and disrespectful to our ancestors.

To shew our worthy correspondent what may be the sentiments of others on this important subject, we present two papers which have remained a considerable time with us. Were the opinion of the first acted upon, there would be no doubt concerning the

inutility of the thirlage act, and the extent of the benefit which those who applied for relief would ultimately gain; and as to the other, it shews the abominable grievance of thirlage in the abstract, seeing that, according to its rules, a mill-master thought himself justified in claiming dry multures on a grain which he could not manufacture. We think the public at large were obliged to the last correspondent, for opposing such an arbitrary attempt to increase a grievance already severe enough; and cheerfully insert his statement, because we are satisfied it may be beneficial to farmers in other counties, where liberty and property are less protected, or, in other words, where the rights and privileges of mankind are less understood and comprehended.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Thirlage Act.

SIR,

IN your Supplement of 21ſt December 1803, a correſpondent ſeems to think, that a Jury, in eſtimating the value of thirlage, under the late act, erred in giving the full value of all multures, ſervices and dues, without making the leaſt deduction whatever, in conſequence of the mill being relieved of the actual labour of manufacturing the grain, for which theſe multures and dues were claimed; as, by doing ſo, it is ſaid they gave more than a juſt equivalent.

This is a miſtake, unleſs the whole multures thirled had been purchaſed up at that time.

The millers, or other mill-ſervants, are paid in meal from the tenements thirled. Suppoſe the half, or any leſſer part of the multures are purchaſed up, the conſequence is, a diminution of the wages of the millers. This muſt be made up to them by the mill-maſter; of courſe, he gained nothing by the tranſaction, after being paid for the miller's fees of manufacturing.

This act is calculated for the benefit of the ſubjects thirled; and, in all partial purchaſes, the owner of the mill muſt be a loſer: he therefore falls in juſtice to be fully indemnified; and in this view of the ſubject the Jury did right.

A. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Thirlage.

SIR,

THE following caſe, which ended in my favour, may perhaps be of ſome uſe to agriculturiſts placed under the like circumſtances;

ſtances; therefore, it will be agreeable to ſee an account of it inſerted in your Magazine.

Several years ago, I was threatened with a proſecution by the mill-maſter of our barony, for abſtracted multures, on account of wheat bread conſumed in the family, and during the period of harveſt, by ſhearers employed to cut down the crop. As his claims extended to the conſumption of many years, and amounted to a large ſum, I thought it prudent to take the opinion of Counſel thereupon. This I did by the following memorial.

"The memorialiſt poſſeſſes the farm of ———, under a leaſe, which ſubjects him to carry *all* the *grindable corns* uſed by him and his ſervants to ——— mill, there to be manufactured, and to pay thirlage for the ſame, agreeable to the eſtabliſhed rules and cuſtoms of the barony. The mill there erected is only capable of grinding oats, barley, and peas, into meal, but not, in the moſt diſtant degree, calculated for grinding wheat into flour. Of courſe, the memorialiſt has only carried the three firſt mentioned grains there, and has got the wheat neceſſary for the uſe of his family and ſervants, manufactured at another mill ſufficiently qualified for that purpoſe. This till lately has not been queſtioned; but he has now received intimation, that if he does not inſtantly account for abſtracted multures on the wheat manufactured by him, and alſo for bread purchaſed, that a proceſs will be raiſed before the Judge Ordinary on theſe accounts. The learned Counſel's opinion is therefore requeſted on the following points.

1. Is the memorialiſt liable for abſtracted multures on wheat, ſeeing that the mill to which he is thirled is incapable of manufacturing that grain into flour?

2. Is he at liberty to purchaſe wheat bread for the ordinary uſe of his family, and the ſupport of his ſhearers in harveſt, the mill-maſter having threatened him with a proceſs on account of ſuch purchaſes?

3. Has a mill-maſter the right of detaining what is called *duſt*, ariſing from oats manufactured at his mill?

ANSWER.

The preceding queries are diſtinctly ſtated, and I ſhall anſwer them in their order.

1*mo*, I anſwer, that although the clauſe in the leaſe referred to is very broad, I am of opinion, that the memorialiſt is not obliged to grind his wheat at a *corn-mill*, nor to pay dry multures, unleſs the univerſal practice of the barony on which he reſides ſanctions ſuch a meaſure. Practice explains and regulates every queſtion reſpecting the import of a clauſe of thirlage.

2*do*, I am decidedly of opinion, that the memorialiſt may buy

wheat bread for his family and ſhearers, without being liable in dry multure, if the practice of the barony does not lye the other way.

3*tio*, The queſtion reſpecting *duſt* will depend entirely upon the practice eſtabliſhed at the mill. If the miller has been in the uſe of keeping it, he will continue to do ſo. If otherwiſe, he has no ſuch right."

Fortified with the above opinion, I immediately waited on the law agent of the mill-maſter, and having told him the ſubſtance thereof, he requeſted me to call on a future day. Accordingly, when I called, his anſwer was, that he had now looked at his *law books*, and was ſatisfied that I was in the right. To which I replied, that it was a pity he had not done ſo at an earlier period, as the delay had occaſioned me to lay out a couple of guineas, which would have been as well in my pocket as in that of the lawyer whom I had conſulted. There the matter ended, and I never heard more of it. Yours, &c. A FARMER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

IF the following inquiry, respectfully addressed to the Patriotic President of the Board of Agriculture, should be deemed deserving of a place in your Magazine, you may insert it when convenient.

The thoughts are not altogether common; nor do they seem in unison with the general sentiments of the times; but if they lead to an useful discussion of the subject where controvertible, it may perhaps have some tendency to promote the general good of your readers. They were originally designed to be addressed to Sir John Sinclair in a separate letter; but, by means of a hint from himself, they are offered as an Essay for the Magazine. I am, Sir, your most humble servant,

GORDIUS.

Edinburgh, 1*st October* 1806.

Inquiry into the Nature and Fluctuation of Corn-Markets; the Causes of that Fluctuation, and the probable Consequences thereof. Respectfully addressed to Sir John Sinclair, Baronet, President of the Board of Agriculture.

OF all the various commodities which have become articles of trade, there is not one of more importance to society than grain. Every individual is deeply interested therein; hence it becomes

becomes the important concern of all. In nearly the rudest and most barbarous state of civilization, the production of corn has been a primary object, and the demand has constantly increased with society itself: bread is the staff of life. How much soever a country may abound in every other article of food, the want of bread alone is considered to constitute a famine.

With regard to corn as an article of trade, it is the most universal, as well as the most indispensable. The inhabitants of every clime, whether more or less fertile, find occasion for it; and where little or none is raised, the most delicious fruits, and every article of use or luxury in society, are most readily exchanged for it. When barter was the only mode of traffic, no artist could so readily procure the articles of his neighbour's industry as the propagator of corn, none being in such universal demand, or of such urgent necessity. In the progress of society, when the precious metals were coined, and made to represent *real wealth*, no article either of utility or convenience, could more readily command them than corn; and hence it naturally became an important branch of commerce.

But so strangely has that article been, in all ages, subject to fluctuation and uncertainty, that not only many of the commercial dealers in, but the actual propagators of it, have been reduced to bankruptcy. Certain as the demand for it must always be, it is equally uncertain if the returns will be sufficient to replace the capital of either with a profit. Adventurers may go too far upon their speculative ideas; and if the latter takes land, and the former purchases the produce too dear, the consequence must be loss. It would seem that uncertainty (or fluctuation) belongs *peculiarly* to the corn trade; for, though all human affairs are subject to change, there is one feature more particularly belongs to it. It now and then presents what the dealers call *fit opportunities for speculation.* When these opportunities present themselves, they are embraced with avidity, in proportion to the chance of being soon over. The capital employed is generally great, especially when the fascinating prospect of uncommon profit allures the adventurer. The die is cast; but the issue is often upon the opposite side of his hopes; the profit or loss are generally very conspicuous. Hence those immense overgrown fortunes, which are extremely rare; hence also those ruinous failures, which are but too frequent. That the prices of grain must still be subject to great changes, no one can possibly doubt; for when we consider the fluctuation to which they have hitherto been liable in time past, we must certainly be forced to admit, that they are still subject to such variations.

riations. Similar causes will uniformly produce similar effects. Plenty will infallibly bring down the prices, and scarcity raise them. The operation of these causes will be found so inflexible, as to manifest themselves under every circumstance, and yield to no kind of opposition. If the rent of land, and the wages of labour, could influence the prices of grain, then certainly markets would *never be low.* If they were regulated by these circumstances, they would at least maintain their uniformity with little variation. As it is manifestly the interest of the landholder that rents should always be high, and of the labourer that the price of labour should never be low, every successful attempt to keep up these, would infallibly keep up the price of grain; but that no such consequence does naturally follow, must be evident to every thinking person. If the axiom is admitted, that 'plenty will reduce the price of corn, and scarcity raise it,' (and it is a maxim common to all trades), then it should not certainly be difficult to conceive very important changes in future prices. They have of late been much higher than the boldest speculator could have ever thought of. Is it impossible to conceive a series of crops as much above a medium crop as crop 1799 and 1800 were below it, and consequently a reduction of prices? This is by no means a fashionable doctrine; for when wheat was in these years above 60s. per boll, or above 114s. per quarter, many seemed to act as if they had a security for its continuance. Some respectable men declared they thought it would seldom or never be under 60s. What will such men now say, when they consider the effect of only three crops, 1801, 2, and 3, immediately after a famine, and the wheat of these crops avowedly not the most plentiful supply? Crop 1803 having been more prolific, occasioned a farther reduction of prices. The prices of crop 1804, indeed, must be allowed to have been excessive, considering the plenty it brought to *Scotland* in particular; but these were occasioned by a famine in Spain, and a considerable failure of the crop in England. These affected the general supply, and acted upon the general market, in exact conformity to our leading axiom. The fiars of East Lothian for that crop were, Wheat, 46s. 1½d.; Barley, 33s. 3½d.; Oats, 21s. 8½d.; Peas, 19s. 2¾d.

Surely were peace established throughout the world, on a solid and lasting basis; were the commercial intercourse opened between every neighbouring kingdom and state; were 'the sword turned into the plough-share, and the spear into the pruning-hook,' then the arts of peace would infallibly succeed. Agriculture is now the darling object of every wise state, and receives the

the countenance and encouragement of every patriot, and of every respectable society. The excessive desire of employing capital in this way, has induced many to withdraw it from other branches; the countenance it has received from the higher orders of society, has rendered it respectable; and great capitals are yearly adding for the support of its interests. The scheme of cultivating immense regions of waste commons, will no doubt generally succeed in this island; and waste, uncultivated tracts on the Continent, will be under the culture of the plough, which at present are covered with hostile armies. Under this impression, can we allow ourselves to think that corn will not become universally plentiful, and consequently cheap?

It is not uncommon to hear farmers say, that the Legislature being so much interested in the prices, for supporting the value of their lands, will take care to secure such in close connexion as will enable their tenants to pay their rents. But we have a commercial as well as a landed interest in that body, who will, no doubt, for the interest of trade and manufactures, endeavour so to temper and qualify the corn laws, that no injury can be thereby sustained from them. Let us suppose, for a moment, the landed should prevail over the mercantile interest, what must be the result? Certainly destruction to trade and manufactures, and, finally, ruin to the country! Our manufactures could not be carried on where provisions are dear, to the same advantage as where they are cheap. In our competition with other nations who possess such advantages, we would be cut out of every foreign market.

It is true, many of our weavers might continue with us, perhaps even the best and youngest among them, if the Emperor of the French persists in that policy, as to the admission of strangers to the rights of denizens, which was one law made during the short peace. But, alas! they would only appear as ghastly monuments of our former prosperity. Our trade might languish, nay, totally decay, while these men, in the last stage of poverty and wretchedness, might repeat their tale of woe, shivering over the embers of their old looms! New manufacturers, and new looms, would start into existence in more favoured lands, perhaps even in the country of our greatest foe. BONAPARTE would relinquish the above laws for the encouragement of useful hands, and would likely be too wise not to take every advantage of our misconduct, which the circumstances of the times would point out to him. Of this, however, we have too much ground of confidence in our British Senate, to allow one moment's apprehension.

It is said, as another argument to prevent the Scotch farmer from fearing any decline of prices, that Scotland does not pro-

duce as much grain as is necessary to maintain its inhabitants. This may be said *gravely*, because it is true; but it is a poor argument, as long as *Britain* can support itself. Our corn is an article of commerce which has often kept other nations from starving, while our manufactures are celebrated over all the world.

Upon this head, however, it must be admitted, that more corn has been imported from 1767 to 1801 inclusive, a period of 35 years, than exported, by at least one whole year's supply. But the causes of this are well known. The many unproductive crops in that period is a principal cause. We had no less than six bad crops, nineteen rather deficient, and only ten good ones. In that period, too, it is estimated that an addition of one fifth part of the population took place, which was capable of consuming far more than our former exportation. The mode of consuming our product; the increased luxury of the nation, must also be taken into the account; and no wonder that the trade is now turned against us. But these need not be causes of alarm to the nation, or of triumph to the speculator in land, as there is no doubt of this country possessing more fertile or improveable land than would supply twice her present population. None who know the state of agriculture through many of the most fertile and improveable counties in England, will deny this. What an astonishing addition would the proper cultivation of the country make, when all the productive ground is brought into action!

Here it must be observed, that if the tythes should ever by any means, whether by the authority of the Legislature, or by the mutual consent of parties, be commuted into money, that improvement would follow as a necessary consequence; these, at present, being an effectual bar to improvement.

By means of such rapid improvement in agriculture, as is at present going on in Scotland, and will in that case take place also in England, there can be no doubt of our being able to meet the increasing consumpt, from any addition which can be supposed to take place in the population. This is a pleasing contemplation; that while the means of our security against any attempt of our restless enemy is increasing, the means of supporting the additional inhabitants is also increasing; and we have every reason to believe, that more productive seasons will be sufficient means of keeping the prices *moderate at least*. Indeed there seems no reason to doubt of this circumstance being sufficient to make them occasionally *very low*. For if it is admitted, that the country is able, by an improved agriculture, to maintain double its present population, that must follow as a natural consequence.

It

It must however be observed, that by means of our very extensive commerce, we have no reason to fear such great inequalities in the prices as have often taken place formerly; though it is a safe maxim, that plenty will reduce the price, and scarcity raise it.

What occasioned the uncommon rise of grain in 1799 and 1800, and what the subsequent decline of prices in 1803? The first was created by a real and most lamentable scarcity for two successive years, and the last by two good crops. These causes operated upon the corn market, in the most universal sense. The whole globe has experienced it more or less in both cases. They have operated according to our axiom, too, which will always be found infallible; and there is not a doubt, that a short series of such crops would astonish speculators, who seem fond of deceiving themselves, and being lulled into an useless security. Wheat of crop 1803 was almost the only grain which may be said to equal the high rents, and it is not to be wondered at that it did so, because it was not in general the most productive crop; that article being also now consumed in the meanest cottage, as well as in the most stately palace.

It may not perhaps be easy to account for such violent fluctuations in the price of corn, as has been said above to affect so materially the condition even of the opulent adventurer. But as every effect must have its cause, I shall here endeavour to ascertain the cause or causes of such fluctuations.

When the ordinary supply of the country in general is at any time increased, the price will of course fall, and if diminished, the contrary. But if circumstances occur to increase the consumption of grain, this will evidently operate in the same manner as a short supply of that commodity; and if to diminish that consumpt, in the same manner as an increase of it.

An insular situation, like Britain, would be affected by emigration, though emigration cannot affect the general market of the globe. False speculation—ideal plenty or scarcity, will for a time operate in the same way as if they were real; and perhaps it is owing to this, as much as any thing, the sudden and violent fluctuation of prices. If men are not perfectly just in their ideas of things, it is impossible their actions can be correct. They must act according to their opinions, however false and erroneous they may be. If they purchase largely of a crop apprehended to be scarce, while in fact it is not, they are using the ordinary means of providing against a scarcity toward the close of the year, while no such scarcity can happen. By these means, their avidity to purchase will naturally raise the prices, and their provident care of the future will as naturally reduce them, by augmenting

menting the quantity toward the time of the supposed sc
On the other hand, should the idea of plenty generally
while it is otherwise, the merchant may be induced to o
stores, though markets are not yet able to replace his capita
a fair profit—perhaps may subject him to great loss. Thes
be called the summer speculations, which are founded on th
pearance of the green crop in the straw. But though this ap
ance is often extremely fallacious, the speculator is not be
the reach of deception, even when it is ripe. The crop
often yield much beyond the idea of the most experienced fa
Crop 1803 may be considered of this sort, which is the
rare; though at other times a crop may fall as much short
appearance, without being any way affected by harvest weat

We have not for many years, till the present, (1806) bee
ther interrupted or alarmed by bad harvest weather, whic
always an effect on the prices. It has, however, nearly t
nated, at an early period, with little interruption. But the
ness of the Scotch crop, and the general bad account of the
lish and foreign wheat already operate.

Other causes, too, affect the prices of grain. If the s
of agricultural pursuits is enlarged, a greater quantity of corn
thereby be thrown into the market, as has been hinted. Th
crease of specie, or (which is the same thing) the augment
of its value will tend to *lower*, and the increase of it to *rais*
nominal or money value of corn. At present, money
undoubtedly suffered a considerable diminution in its va
whether from the increase of the precious metals by mear
a more productive state of the mines, or the more exte
encouragement of paper currency is not material to inq
This must operate powerfully in keeping up the nominal val
corn; but it can only be in proportion to that alteration.
if at present any certain price is assumed as that which c
sponds to 20s. during the latter part of last century, say
then in place of finding the wheat falling to 15s., as it di
crop 1778, it would only fall to 18s. 9d., and in place of
ling to 18s., it would now fall to 22s. 6d., &c. But it is diffi
perhaps impossible, for any kind of arithmetic to ascertain
is the real alteration of the value of money. One thing, h
ever, is certain; if the annual produce of the country is by
means increased beyond its usual extent, the above propo
will not hold, but fall below it. With regard to the causes w
have been assigned for the fluctuations of corn markets, it is
lent, that if any two of them which are similar in their ef
happen to combine, their operation becomes violent; of thi
have an instance in crops 1799 and 1800. At that period,

v

value of money was understood to be considerably decreased, and the general produce of the globe was so much diminished, that little short of a famine ensued. In consequence of these circumstances, wheat rose in Haddington at the highest pitch, to 76s. and 78s. per boll, or 153s. per quarter. In the London market they were still higher, even as high as 160s. per quarter. When two causes which have a contrary tendency to each other happen to unite, for example, a scanty crop at a period when money is high in value, they will tend to counteract each other. When equal and contrary powers oppose each other, they are said (in the science of mechanics, to destroy one another's effects, and that is so here too in proportion to the opposition. The slow degrees by which money either increases or diminishes in value, can never keep pace with the more sudden and irregular changes of corn markets; but when the scarcity raises the price of grain, the opposing power, viz. the high value of money, acts in a certain degree as a check upon it. Of this we have an instance in crop 1740. That crop had almost produced a famine in Britain; and had not the means of purchasing the corn been much circumscribed, in comparison of the present times, it would have been *nominally* much higher than in the two last dear years. The fiars of that crop were, Wheat 22s. 6d.; Barley 18s. 6d.; Oats 15s.; and Peas 22s.; but in summer 1741, much higher—the meal 2s. 6d. per peck of eight lib. Dutch. The prices of our late dear years are within the memory of every one. Oat-meal was as high, in the Edinburgh market, as 4s. 8d. per peck retail! Barley, in spring 1801, was 60s.; Oats 46s., and Peas 42s.

War also affects the prices of grain. Perhaps never was there a more evident instance of this, than the consequences flowing from the recent transactions of the Prussian monarch. He adopted a system of the most cautious—perhaps the most criminal policy which can be imagined, (of which he seems now ashamed). When an alliance was formed with the Russian and Austrian governments, for the security of the interests of Europe; when the wavering balance needed but *his* influence to turn the scale to either side; when the evidence of Bonaparte's views for his own aggrandizement and the subjugation of every other state within his reach was so extremely apparent, he acted the part of the most timid neutrality, and then formed a league with the usurper to interrupt the trade of Britain, by shutting the Elbe, the Weser, the Ems, and all the rivers of Germany over which he had any controul, and, by the by, as the first fruits of the new acquired freedom to his people, he also *shut their mouths*; so that, by a public edict, they dare not talk upon political subjects. The impresssion which this policy made upon the Scotch

Scotch market was instantaneous and violent. Wheat, whic
been pretty steady, and for many months had not exceeded
32s. to 35s. 6d., (which last was the top price in Haddingt
week before the news), rose suddenly to 42s. 44s. and 46s.
continued to rise while the same cause continued to operat
is rather out of my province to take notice of the effect
such timid, such dishonourable, such wretched policy ma
upon this despicable monarch; but it may not perhaps be th
too much to say, that this late act was forging his own c
and that his independence is entirely at an end.

When the whole civilized world is engaged in the busir
agriculture, their exertions must naturally tend to redu
price of corn; and when it is found that the extra quantit
duced by the superior skill and art of the farmer, is not su
indemnity for the want of price, the only alternative left i
graze such proportion of his land as will again turn the ba
in favour of corn, or maintain a just equilibrium between t
The astonishing increase of the price of butcher meat, re
this a most eligible expedient; and the joint effect of indiv
exertion will have a powerful influence in correcting a tenc
to either side.

The same causes which affect the price of grain opera
every commodity. Plenty or scarcity will always regulat
price; the value of money, too, will affect the prices of
article of trade; and, in general, whatever can be said o
corn-market, may be applied to that of any thing else.

Every manufactured commodity must fall in price, in sp
the value of the raw materials of which it is composed, w
strong competition takes place among manufacturers. Eve
value of labour will fall, when plenty of candidates present t
selves for every employment, and that in spite of the pri
provisions. The prices of grain, as already said, will ri
fall, without any regard to the rent of land. This last
be a serious remark to the occupier of land; but it is cer
founded in truth.

We have authentic tables of our East Lothian and Mid-L
fiars *, from 1627 to 1779, in which much is to be learned
the mutability of corn markets. One, not accustomed to
investigation, would be surprised to find, that in East Lo
wheats, during crops 1628, 1629, and 1630, were not under
and in 1631, 25s.; in 1634, 11s. 8d.; next year, 25s.; in

* Fiars signify the medium price of the crop mentioned, a
generally determined early in March.

8s. 4d.; in 1667, 8s. $7\frac{4}{12}$d.; in the four last years of the seventeenth century, 21s. 8d., 20s., 26s. 8d., 25s., (these were denominated the *dear years*); in 1706, 8s. 4d.; and, after a series of low prices in 1743, 9s. 8d.; and finally, in 1778, 17s. $9\frac{1}{2}$d., and in 1779, 15s. $0\frac{1}{2}$d. It is curious to remark, too, that the highest average of any period of twenty-one years, from 1627 to 1776, 150 years, does not exceed 18s. $9\frac{4}{12}$d., which average falls in the last period; but the average of the first period, viz. from 1628 to 1650, is 18s. $0\frac{9}{12}$d.; the rest are very low, generally under 14s., excepting one period, (the middle one), which is 15s. 8d.

Such great and often sudden alterations of prices, would seem sufficient to damp the ardour of speculation, and produce a spirit of caution but ill suited to an adventurous age. Sorry indeed would I be to employ my pen, in encouraging such apprehensions, as might in some measure paralyze the strong arm of trade and agriculture; but when one observes a kind of *mania* prevailing among speculators of every kind, it forces a few reflections and observations, which seem obviously deducible from sound experience. That plenty will at this day operate a reduction of price, as well as it did many hundred years ago, is assumed as an axiom; and similar causes will always produce similar effects. The grain of crop 1794, especially the wheat, had been too hastily consumed for the general scarcity; and on account of the situation of most, if not all the surrounding nations, by means of the French *revolution-war*, the quantity in this island fell short of the demand. In the summer 1795, accordingly, we find that wheat rose rapidly from 33s. to 63s., even to 70s. at Leith (the fiars of that crop only 25s. 6d.) Towards the approaching harvest, it suffered several sudden and very material changes, falling and rising alternately, no doubt, according to the ideas and consequent operations of speculators. The fiars of wheat, crop 1795, were 46s. 9d.; of crop 1796, 27s. $2\frac{1}{2}$d., and fell as low as 21s. the ensuing summer. Oats of crop 1796 fell as low as 10s. 6d. through winter; and the average till March 1797, (or the fiars), was only 16s. $1\frac{1}{4}$d. The crops 1802 and 1803, in general, were abundant; and, notwithstanding the extreme scarcity, during the consumption of the two preceding crops, which occasioned a very uncommon demand upon the first cut grain of crops 1801 and 1802, prices gradually declined to such rates as may be considered were hardly able to support the high rents of land. Crop 1804, from extraneous causes, rose very high.

Thus, after the highest prices ever witnessed, or ever recorded, they have fallen, recovered, and comparatively fallen again.

Speculation

Speculation was much blunted; and a spirit of caution seems have prevailed, among the *corn merchants at least*, in 1803.

It was long the common language of farmers, that *land is at height.* However, that phrase was dropt, and succeeded by o much more cautious before the end of last (eighteenth) centu ' Things must certainly come to a crisis. ' This phrase, croak may use with safety; for all human affairs have their crisis. Kir doms and states, trade, manufactures, arts and sciences, all ha their zenith, all have their fall! And have we not some reas to apprehend that such a crisis may happen, under such circu stances as we have seen markets liable to? We must allow th keeping the population of the country *out of sight*, there can no doubt the increased agricultural produce would soon exc the consumpt, and overstock the present inhabitants; and, doubt, population having *at least kept pace* with the means of s plying their daily wants, has been the cause of the prosper both of trade and agriculture.

It lies rather out of my province to advert to the effect of v upon our population, either within this island, or on the gl at large. But it is a striking circumstance, that the war w France and Spain, which terminated with the peace of Paris 1763, employed annually no less than 200,000 English, besi Scotch and Irish, by sea and land, and in its progress car off nearly that number. Such a depopulation must always severely felt. But, in ordinary wars, a breathing time has expected. A peace has succeeded; and time, the great h of the most irksome wounds, has furnished balm to *heal th flicted nations*, and opportunity of recruiting their wasted po tion. Should the present hostile attitude, however, of o placable enemy—the scourge of the human race—be, in t vidence of Almighty God, permitted to continue so long ny apprehend; and should actual invasion take place, or e frequently attempted, it seems to baffle argument to d what may be the final result. Whether it might most aff culture or population, is difficult to determine. But on certain: the extensive scene of agricultural pursuits v above contemplated from the idea of peace, must v smoke; and that general plenty, which the spirit of fa a principal art of peace, was to introduce, for the time up. Should the war become general and bloody, popula suffer in like proportion, and thereby perhaps the pres of food and population be maintained. The late u astrous events upon the Continent; the death of o cessful admiral, Nelson, the terror of our foes; t that of our able and patriotic statesman, Mr Pitt, a

exalted character Lord Cornwallis: had these not been counterbalanced by our extraordinary superiority at sea, evinced in that most brilliant action off Trafalgar under Lords Nelson and Collingwood, that under Sir Richard Strachan, and the more recent one under Sir John Duckworth in the West Indies; we would have been forced to dread that they portended no less than the downfal of Great Britain, and that Bonaparte was destined to be our scourge, and the executioner of Divine vengeance. How long this vengeance may be delayed, or how soon it may be executed, and who may be the Nebuchadnezzar of our times, belongs not to the present inquiry, and must remain a secret till its very accomplishment. But had these successes not taken place, perhaps we should have soon witnessed the peaceful shores of Britain stained with *hostile* blood, in place of a warfare merely of menace.

As to the nature of population, and the means of supporting it, Dr Paley quotes from some treatise on that subject (see his Natural Theology, 10th edition, 1805, p. 548.) thus. 'The order of generation proceeds by something like a geometrial progression; the increase of provisions, even under circumstances the most advantageous, can only assume the form of an arithmetic series. Whence it follows, that the population will always overtake the provision; pass beyond the line of plenty; and will continue to increase, till checked by the difficulty of procuring subsistence.' He adds, 'Such difficulty, therefore, along with its attendant circumstances (poverty) must be found in every old country.'

Were this definition correct, it would most effectually subvert the preceding doctrine, and leave no chance of any thing, but the most rapid advance of prices, and the most gloomy prospect of penury beyond all remedy! A penury which would soon affect the opulent themselves. It may not therefore appear an unreasonable digression, to endeavour to expose the fallacy of this assertion.

All who are acquainted with the nature of these different progressions of numbers, will soon perceive that the comparison is erroneous. The former is a set of numbers, increasing or decreasing by multiplication or division; and the latter, one which is increased or diminished by the slower operation of addition or subtraction. And that number by which such operation is performed, is called the common ratio of the series.

If we suppose two people (one pair, the least we can suppose) the first term of a geometrical series, to increase yearly by 2 (for none lower is effective) in a geometrical progression, the series will stand thus:

$$2^1 : 4^2 : 8^3 : 16^4 : 32^5 : 64^6 : \text{—} \; 262144^{17}$$
$$\text{—} \; 536870912^{46} : 1073741824^{47}.$$

The

The inhabitants of the globe were, in 1798, estimated, from the best authority, about 953000000; but the above series makes an increase much above that in 27 years. What provision can be sufficient to keep pace with such an amazing, such a rapid increase!

Let us suppose this pair to possess very ample means of procuring subsistence, and of providing, by common industry, for their posterity. Let them have 500l., which is surely great allowance. This 500l. is the first term in an arithmetic series, which suppose to increase by the very great common ratio of 1000l. yearly. The series would stand thus:

L. $500^1 : 1500^2 : 2500^3 : —$ L. 26500^{27}.

But compare them.

Population, $2^1 : 4^2 : 8^3 : 16^4$ —— 1073741824^{27}.

Provision, $500^1 : 1500^2 : 2500^3$ —— 26500^{27}.

Thus it appears, that however *like* the population and provision may seem to be to such progressions of numbers, it seems to have been wholly ideal in the author who makes the comparison; and Dr Paley, who is a great author and good character, has been misled by his specious reasoning. For by this theory the population in 27 years is TEN HUNDRED SEVENTY-THREE MILLIONS SEVEN HUNDRED FORTY-ONE THOUSAND EIGHT HUNDRED AND TWENTY-FOUR inhabitants. And their provision TWENTY-SIX THOUSAND FIVE HUNDRED POUNDS!!

In the thirteenth year, the population has fairly 'passed beyond the line of plenty;' for the inhabitants at that period have not twenty shillings a piece. And from that they pass into extreme penury, with a swiftness accelerated beyond all conception.

But perhaps the writer of this Essay adheres to his opinion, and conceives, that, in some division of unity, a first term may be found, and also a common ratio, which might prevent the population from overtaking the provision for many a century. But, alas! besides the absurdity of assuming any decimal part of *a man and a woman* as the first term of the series, if the common ratio is any thing under two, it can never increase; because, to multiply by one is doing nothing, and to multiply by a fraction is diminishing the sum we intend to increase.

However specious the idea may be, it is certainly inadmissible. For, how vastly must we exceed all the bounds of common sense in portioning the first pair, in order to ward off the fatal approach of poverty for any considerable length of time! But to endeavour to conform to his ideas, let us assume a first term, so low in the scale of fractions as .00001, to represent *the population*. The least effective common ratio we can admit is 2, which, in

17

17 operations in a geometrical series, will be found to produce 1.31062. This sum, just emerging above unity, will increase so rapidly as soon to overtake any arithmetical series, however great its first term may be. Thus a geometrical series, whose first term is 1.31, will, in 17 years, amount to 191704;

$$1.31 : 2.62^{1} : 5.24^{2} : 10.48^{3} : \text{---} : 95852^{16} : 191704^{17}.$$

Here we have, upon this idea, a population increasing for 34 years, one half on the scale of fractions, the other upon that of integers, which in that time amount to ONE HUNDRED NINETY-ONE THOUSAND SEVEN HUNDRED AND FOUR; and if we suppose the portion of the first term TWO POUNDS (a great sum for the *hundred thousandth part* of human being), and that it is to accumulate at the rate of one thousand a year, then we have, in the 34th year of the series, to set off against the above population, only ONE THOUSAND AND SIXTY-EIGHT pounds, which is little more than FIVE FARTHINGS a piece!

It is impossible to give an example of any country or district, as to its population and the means of supporting it, in order to try the assertion by the actual circumstances of that country. The many adventitious instances of foreign population; those of emigration; and perhaps a variety of local circumstances, must wholly prevent this. But it may afford a clearer view of the business, if we take in the whole field of population, since the creation of mother Eve. If we call the first pair the first term of a geometrical series, the last term will be our present population, which, in round numbers, call ten hundred millions. Thus, $2^{1st.} : \text{---} 1000000000 : {}^{5810}$ during 5810 years, and $\frac{1000000000}{2} = 500000000^{5809}$; and the exponent of 500000000 is 5809, or equal to the number of terms minus unity. So that the root of this power, or of 500000000, the 5809th root, is the common ratio. Thus, log. of 500000000 $\text{---} \frac{8.698970}{5809} = .0015$, which is the logarithm of the ratio, or the fifteen thousandth part of unity! But this cannot increase the series by multiplication, and shows that the idea is unfounded.

The chain, no doubt, (or the series), was broken at the deluge, both as to population and provision; but it is evident that, in the present situation of the world at large, the provision has rather *passed beyond the line of* POVERTY, and seems in a fair way of going on still, until perhaps checked by those violent revolutions which threaten universal destruction, as well as anarchy.

From this investigation, we must certainly be compelled to acknowledge, that the method by which Providence preserves

the balance between population and provision, lies beyond the reach of arithmetic. The preservation of the balance between the sexes, too, is another mystery; but, indeed, we are surrounded with mysteries, and are puzzled at all hands. We ought therefore to be satisfied that all things are well ordered and proportioned, although we cannot effectually explore them.

Dr Paley, in endeavouring to account for the natural evils permitted by a beneficent Being, quotes the author already alluded to, and from that draws the conclusion, that labour, servitude and restraint, are the natural and unavoidable sequences which must always result from such a state of society as that in which we are placed in the world; but he is far from regarding them as *real evils*, and beautifully moralizes upon that inexhaustible fund of felicity which can be appropriated by every member of the community.

Having thus considered the nature and fluctuations of corn-markets, and glanced at a few of the most apparent causes of such fluctuation, it remains to make a few observations on the probable consequences.

From what has been said of the causes of the fluctuation of corn-markets, and the evidence adduced of their various and sudden changes, it will be no difficult matter to discover, what may be the probable consequences of such changes in future.

The consequences must assuredly be, that some merchants will make fortunes, as they have done in all time past; but the chances will be similar to those in the lottery, where there are a great number of blanks to a prize. Many will be bankrupt, and readily acknowledge the fascinating influence of the *corn trade.* Some farmers, too, who are able to suffer a few *years perhaps* of low prices, both of corn and cattle, will continue to *figure in their line;* but those who adventure on new leases with little stock, will fall victims to their own temerity.

" No venture, no gain, "

's an old maxim; and those merchants who have an insatiable ambition for gain, will drive this to the utmost. The danger of getting beyond their depth, and calling in the aid of those, who have only a moderate competency, to their ruin, is to them a matter of mere indifference. And, alas! many are the innocent dupes of such avaricious adventurers. Often do these *dashing speculators* wring with anguish the heart of a father; extract the glistening tear from the eyes of the mother, and force from the innocent throats of a young family, the unavailing cry of hunger! But ambition must have its course, though virtue and innocence should both suffer. Farmers, indeed, are the least to suffer from speculators, because they may sell all their grain

grain for ready money, though the prices in that case should be somewhat less than those can obtain who give credit upon bills. This indulgence to a merchant, will no doubt procure him a readier market, than otherwise he could find; which, when grain is plenty, is a great temptation. But, in this way, are many brought to suffer by wild speculators, or people without capital.

If these observations can have any influence upon immoderate ambition, and consequently wild and extravagant speculation, it will fully reward the writer's trouble, and perhaps render some degree of service not altogether unacceptable to the public.

GORDIUS.

NOTE BY THE CONDUCTOR.

WITH submission to our respectable correspondent, we feel it a duty to remark, that most of the doctrines inculcated in the above paper are pretty much in unison with the general sentiments of mankind. Corn, undoubtedly, is an article of trade the most necessary and indispensable; though, from the uncertainty of seasons, subject to greater fluctuation of price than other commodities. This fluctuation furnishes room for speculation, in the exercise of which, great loss may be sustained, or great profit may be gained by those concerned. The truth of these leading positions, together with that of another, namely, that plenty will infallibly bring down prices, and scarcity raise them, is sufficiently ascertained. But there are other points touched upon in the communication before us, which seem to bear a more questionable character. These shall be briefly noticed.

In the *first* place, the chief object of this interesting paper may be considered as an attempt to convince the public, that corn will become universally plentiful, consequently cheap, when peace is restored to the nations of Europe. The arguments used by the author in support of this opinion, may, in some degree, be estimated as well founded; though, according to our views of the subject, corn cannot possibly fall so low as we have seen it, because the increased and increasing value of labour must prevent such a reduction; and even were it to happen, cultivation would in a great measure be renounced, till prices returned to an appropriate standard. Allowing prices were to fall 15l. per cent. below those of the present moment, British agriculturists would not suffer, providing the war taxes were abolished; and a fall of this extent would only bring the market value of corn to the rates at which it can be imported, duty free. We are clear that he who calculated higher than the importation rates, when framing proposals for land, leaned to a rod, which, like that of Egypt, may one day or other pierce his own side; whereas, those who assumed these rates as the basis on which their offers were formed, may

be conſidered as having no cauſe for alarm, were peace ſettled to-morrow. Were our author correct in his chain of reaſoning, peace ſhould be dreaded as the greateſt evil that could befal us, and everlaſting war regarded as the neceſſary ſafeguard of Britiſh huſbandry. We admit in the fulleſt manner that war cauſes the price of produce to advance, eſpecially in a nation that depends, in ſome meaſure, on foreign ſupplies; but it ought to be remembered, that war is neceſſarily accompanied with heavy burthens; and, in particular, that during the preſent one, theſe have been laid on huſbandmen with more ſeverity than on other claſſes, though not noticed in the paper before us.

In the *ſecond* place, we lay it down as a primary principle, that the market value of corn will always be regulated, not by the quantity of produce preſented in the market, or the ſum of money which the dealer may have in his pocket, but by the affinity which that quantity bears to the market demand. Now were Britain, nay the whole world, cultivated like a garden, and were produce increaſed in a tenfold degree, ſtill there can be no moral impoſſibility againſt a demand appearing for all this vaſt increaſe of agricultural produce; becauſe, that ſtrong phyſical obſtruction, want of food, being removed, population might increaſe in the like ratio with improved agriculture. No farmer, poſſeſſed of the leaſt conſideration, increaſes the number of his live ſtock before additional food is provided for their ſupport; and ſomething of the like nature muſt be done for the human race, before their numbers can be materially increaſed. We do not ſpeak of a pariſh, of a county, or even of a kingdom; becauſe, in that limited view, the neceſſaries of life, when wanted, can be obtained from other places where a ſuperplus may remain; but our obſervations apply to population on the great ſcale, the poſſible extent to which ſuch may be augmented being incalculable. This might be exemplified by the actual ſtate of China, and by the rapid increaſe which occurs in every new ſettled country where proviſions are plentiful. In ſhort, were the nations or families, into which mankind are divided, to lay aſide their ſwords and their guns, and confine themſelves to ploughſhares and pruning hooks, there is no ſaying how rapidly the earth might be improved, or what number of inhabitants might be ſupported by its produce. So long as food was obtained, ſo long might an increaſe go forward, while employment would not be more wanting than at the preſent time. Man works for man; and, increaſe his numbers to the greateſt poſſible extent, the field of employment will furniſh buſineſs to be greater as it did to the ſmaller number.

In the *third* place, though the price of corn in different ſeaſons varies very much, yet it is not to be inferred that the profit of the cultivator alters and varies in the ſame ratio. Unfavourable

able ſeaſons occaſion ſcanty crops, and their concomitant high prices; but, under theſe circumſtances, the farmer's ſales are ſo greatly curtailed, (his home conſumption being the ſame in the worſt as in the beſt year), that often he is not benefited ſo much as when prices are more moderate. Crop 1805 may perhaps be quoted in ſupport of what we are now maintaining. Taking it all and all, its produce was above a medium; and though prices were conſiderably below thoſe of the current crop, yet it is not ſuppoſed that the riſe of prices this year will compenſate the actual deficiency of produce. In 1799, many farmers could do little more than pay their rents, notwithſtanding the amazing prices given for grain. They had it not to ſell, therefore could not be benefited. From theſe fluctuations of crops and prices, no evidence however is furniſhed that corn, when the value of money is conſidered, will fall ſo low as it was in former times. When wheat was at 20s. per boll, farmers of that time had as much cauſe to dread, and really did dread, that it would fall to 14s. or 15s. as we now have to apprehend that it will return to the prices current only fifteen or ſixteen years ago. Indeed, when at 14s. or 15s. the ſame fears operated on the minds of many people which ſeem to affect our author at this moment.

In the *fourth* place, we are always ſceptical, with regard to the influence which an increaſe or reduction of the circulating medium may have upon the market value of grain, unleſs it be in dear years, when an increaſe of medium, no doubt, enables the purchaſer to pay a high price, when he cannot obtain the article on lower terms. If a man has five pounds in his pocket, and wants to purchaſe a boll of wheat, he will not give more than market value for it, merely becauſe he has the means with him. No—he buys it, if in his power, for thirty or forty ſhillings, though, having five pounds, he was certainly able to give that ſum to the ſeller, providing that was its market value. It is exactly in this way, that an increaſe or reduction of the circulating medium operates upon markets. The largeſt ſupply of money will not raiſe prices, if the ſupply of grain preſented exceeds the demand, though, *vice verſa*, this ſupply of money enables the purchaſer to procure the quantity wanted, if ſuch is within his reach.

Laſtly, with regard to what is ſaid concerning Dr Paley's thoughts on population, we are inclined to believe that our reſpectable correſpondent has fallen into a radical error, by ſubſtituting *years* for *generations*, when making his geometrical calculations on the increaſe of mankind. It can hardly be ſuppoſed, that the progeny of the original pair would exceed the number of *ten* in the 27th year, whereas they are rated at as many hundred millions. Again, as to the increaſe of their capital, we are led to ſuppoſe that, if 500*l.* gained 1000*l.* in the firſt year, 1500*l.* would, on the like principles, gain 3000*l.* in the ſecond, and ſo

on as the stock increased, in all time coming, which would nish a result very different from the one given. Dr Paley's j on population seem tolerably correct; and we are clear tha increase of mankind would take place in something like a metrical progression, were not that increase retarded both by ral and physical causes. We see in every new settled cou where provisions are plentiful and cheap, and marriage earl tered into, that population increases much faster than it do old settled countries, where riches are accumulated, and lu has diffused its baneful influence. In such countries popul becomes in a manner stationary; in other words, it is restr to the number who can find employment and sustenance. (like mankind, would also increase geometrically, were the v that is produced to be always sown again; but, as nearly th quantity is only annually sown, the increase must be com on principles very different; of course, the number of in tants of every country, already fully cultivated, can only l creased, when improved husbandry is practised, whereby a spot of ground is made to yield a larger quantity of produc by importing supplies from other places. Britain, for s years past, has been placed in the last mentioned situation obliged to make purchases of food from other nations, in l which she has exchanged the produce of her other manufact though it deserves to be mentioned, that many sources of s remain at home, whence the present population might dra support, did not legal restraints prevent them from being o or touched.

As discouraging conclusions might have been drawn from part of what is stated by our respectable correspondent, w used the freedom to offer these passing remarks; and shou meaning have been mistaken in a single instance, we look f cuse, seeing that, if an erroneous view has been taken, the is wholly unintentional.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Cultivation of Kelp.

SIR, *Balmacara, 30th October 1*

As I have not the opportunity of peruſing your valuable ..ation ſo regularly as I could wiſh, I am uncertain whether ..ultivation of kelp ſhores falls within the plan of your ; have of late paid ſome attention to that ſubject; and if yo leem the following facts and obſervations worthy of a ..erein, they are very much at your ſervice. I am, with n eſpect, Sir, your obedient humble ſervant,

THOMAS DUDGEO

T

THERE has been kelp manufactured this ſeaſon on the eſtate of Lochalſh in Roſsſhire, the property of Hugh Innes, Eſquire, at A, which is ſituated at the confluence of the Lochs Duich and Long, and at D, on the ſhore of Lochcarron. The quantity of ſhore A, from which the ware was cut, amounted to 4 acres 3 roods 1 fall Scots, and produced of kelp Tons 7 : 10 cwt. of 21 cwt. to the ton, which is the ſelling weight in this country.

The ſhore D meaſured 8 acres 1 rood 1 fall, and produced of kelp only - - 5 : 20

Tons 13 : 9 cwt.

From theſe diſproportions, it is evident there have been ſome very conſiderable differences between theſe crops, or in the management of them. The crop of kelp-ware on A was cut at the age of three years; that on D was cut at five years old; which tends to confirm a generally acknowledged opinion among kelp manufacturers, that ſea-ware is at its prime at three years old for producing kelp; and that every year thereafter it loſes ſubſtance. And, in one reſpect, this is evident to the eye, as it gets much thinner in the ſtems and leaves. Perhaps chemiſts may be able to aſſign other reaſons, which may gratify curioſity. However, in this particular caſe, there were other evident circumſtances which accounted for the ſmall produce of kelp from the larger quantity of ſurface. Though the weather was pretty favourable for manufacturing ſhore D; yet there was one acre of it which was not ſo cloſe a crop, owing to the ſtones upon it being too thin on the ſurface; and, upon examining ſhore D, it apparently was not ſo cloſe cut as it ſhould have been, which the kelper accounted for by ſaying, that the tides were not perfectly favourable; and, moreover, nearly the one half of the ware, after being cut, required to be floated a very conſiderable diſtance to the burning kilns; in which operation ſome of it might have been loſt: whereas, on ſhore A, the crop was, and muſt always be, good, from the favourable ſituation of the ſhore, and the ſtones upon it; and the diſtance of floating it was very ſhort. Notwithſtanding, even the produce from A was not ſo much as there was reaſon to expect. During the time of manufacturing it, the weather was very unfavourable, being exceſſively wet. It is true, the kelper inſiſted, that he had manufactured all the quantity cut; but ſome doubts might be entertained of his veracity; becauſe a very active kelper from the iſland of Skye purchaſed as much growing ware on the ſame ſhore, and at the ſame time, as would produce a ton of kelp; and there is credible information that he loſt the one half of it by the unfavourableneſs of the ſeaſon. In ſhort, theſe and other circumſtances render any *data* on

this ſubject very vague. It is well known, that the different l of ware produce a leſſer and greater quantity of kelp; and t different kinds muſt frequently grow promiſcuouſly, in unc quantities.

The kinds of ware moſt frequently manufactured into kel this diſtrict, are the bell or knotted ware, and the ſea-oak; former of which is eſteemed the moſt productive of kelp. may be another cauſe why the ware on ſhore A produced a g er proportion than D; it having a greater mixture of the ware than ſhore D.

The expenſe of manufacturing kelp has, like every other ration, increaſed conſiderably of late years. Lord Seaforth's tor in the pariſh of Kintail, employed a kelper from the Iſl Skye, to manufacture the kelp on that eſtate laſt ſummer. engaged to give him what he calls the extravagant hire of 4l ton, beſides furniſhing him with the uſe of a boat, (perhaps of or three tons burthen), hooks or ſickles for cutting the ware, l ing irons or *clads*, and creels and hand-barrows, with lod pots and diſhes for preparing victuals for the kelpers, who n amount to about ſixteen perſons. It was propoſed to have ſe Innes's kelp ſhores, for laſt ſeaſon, at a rent certain; but a appointment prevented that ſcheme. It was therefore nece to employ people on the eſtate to manufacture it on Mr In perſonal account. Though it may appear a little ſtrange, the habitants of the Mainland, in this diſtrict, do not employ tl ſelves ſo much in this manufacture as the iſlanders. It being cuſtom for the Mainland proprietors to hire kelpers annually a Iſle of Skye markets; of courſe, our own people are leſs e: at the operation, and, conſequently, more expenſive ſerv Notwithſtanding, it is very evident, that it would be the tru tereſt of the Mainland proprietors to employ the poor peopl their own eſtates in this manufacture. Moreover, it became ceſſary to engage the individual labourers at higher rates what an experienced and economical iſlander would have c The particulars of manufacturing and ſhipping the above qu tv of kelp are as follow.

The manufacturer or kelper had 30s. per ton, which, on 13 9 cwt., amounted to - - -	L. 19	1(
A foreman or grieve, 58 days, at 2s. -	5	1(
1 men labourers, 46 days, nearly at 1s. 2d. -	29	1(
; women ditto, 46 ditto, at 6d. - -	5	1.
- ditto ditto, 2½ ditto, at 6d. - -	0	
Beſides this money wage, each fixed labourer, of whom there were 17, had 1 ſtone of oat-meal per week.— 17		
Carry over	L. 61	(

Brought over	L. 61	0	1
17 bolls 1 firlot 2 pecks was given them, which, at 22s. per boll, is	19	2	3
Allowance to each of these 17 for shoes, 3s.	2	11	0
Hire of a boat during the work	1	0	0
Incidental expences for hooks, smiths' work on irons, whisky to labourers, iron, &c.	3	7	4
Expence of shipping kelp, boat hire, &c.	1	9	6
Total expence	L. 88	10	2
The kelp manufactured, 13 tons 9 cwt., was sold at 8l. per ton	107	8	7
Net profit only	L. 18	18	5

—which is about 1l. 8s. 1d. per ton; whereas, had the same quantity of kelp been manufactured by the Skye kelper employed by Lord Seaforth's factor, extravagant as his wages above stated were esteemed, there would have been an additional profit to the proprietor of no less than about 2l. 10s. per ton. At same time, it is not meant to be asserted that such a saving would always accrue. On the contrary, it is pretty certain that this Skye kelper must have suffered considerably by his contract, and that owing entirely to the unfavourable season.

The share of the above expense, which was incurred on shore D, amounted to	L. 34	6	7½
That against A, was of course	54	3	6½
	L. 88	10	2

On calculation, it will be found, if the weather had been equally favourable at the time of manufacturing shore A as shore D, there would have been a saving on shore A of about 4l. 18s. Also the shore A, as above noticed, is situated more conveniently for burning than shore D; therefore, in a comparison between A and D, the saving on this account must also be placed to the debit of shore A.

On the foregoing statement of expense, it may be remarked, in general, that the wages given to the kelpers and mere labourers appear to have been too high, and also that too great a proportion of men were employed, as the opinion was, that every woman did as much work as any man; of course, more circumspection must be used next season. At same time, it is acknowledged as perfectly fair, that kelpers should be allowed more wages than any other labourers, they being frequently exposed during night to wet from above and below, and generally to bad accommodation. A day-labourer's wage here is 1s. 6d.; and the peck of oatmeal can, on an average, be always obtained under this sum.

From

From the above statement, it appears, that the average quantity of kelp manufactured from the above shores, was about one ton and two thirds of a hundred weight, *per Scots acre*; and it is humbly thought that, in general, this produce may be reckoned on with safety. Indeed, it is presumed to be rather below the average produce of kelp from the shores of the Western Highlands and Islands of Scotland.

It is presumed that the average rent paid to proprietors of kelp shores, for several years past, may amount to about 3l. per ton; and it is thought that this sum may be counted on with certainty, so long as Government preserves the duty on barilla, which it is certainly sound policy to do. There are immense tracts of shore on the Mainland and Islands, which may be easily cultivated for the production of kelp, from which, at present, not one penny is derived. All the cultivation requisite, is to place whin or other hard stones, not under the size of the crown of a hat, upon such vacant spaces. Several people with boats on Mr Innes's property, have been contracted with to plant four acres of shore with such stones, at the rate of 20l. per Scots acre. Such stones are generally to be found at high water mark, on all the shores of the lochs of the Highlands. They are put into the boat at high-water, and then carried to the ground to be planted, and thrown overboard; and on the ebb of the tide they are distributed regularly over the shore, preserving a clear space round every stone of one foot; which distance, after very minute examination, appears to be the most eligible for producing the greatest crop of ware. It is evident these stones should be of a round shape; the more surface being exposed to the alternate action of the air and water, so much more kelp-ware will be produced from a given space of ground. In four years the first crop may be cut; which, on the above *data*, will yield about 4 per cent. on the original expense. But the crop may be manufactured into kelp in every third year thereafter; which, on the same *data*, is equal to about 5 per cent. In this improvement, there is no hazard of bad crops; and if the manufacture is begun early enough in the season, there is little danger to be apprehended from bad weather; it being understood, that the operation of kelp-making can be carried on, should there be no more than two dry days in eight. This cultivation is therefore humbly recommended to the serious and immediate attention of all proprietors of sea-shores. Fractional accuracy has not been attempted in the above statements, such being esteemed, on subjects of this kind, mere affectation. But it is thought, if there be any errors, they are on the side of moderation.

Some kelpers say that 1050, others say that 900 creelfuls of ar[illegible] (bell-ware and sea-oak) will make a ton of kelp. The aver-

age

age of theſe quantities is 975. In order to aſcertain the extent of ſhore neceſſary for the growth of this quantity of ware, there was meaſured, with all poſſible accuracy, a fall of ground on A, two on D, and another at K; the laſt ſituated on the ſhore of Lochalſh. And an average crop on each of theſe places was choſen, as near as could be gueſſed by the eye. And all theſe crops were of three years growth, except that on D, which, as ſtated above, was of five years.

			Creelfuls.	*Weight. Cwt.*	*qrs.*	*lib.*
The fall on A being compoſed of nearly equal quantities of bell-ware and ſea-oak, produced			12	5	2	26
	Cwt.	*qrs.*				
On one of the falls of D grew the bell-ware, which meaſured 11 creelfuls, and weighed	7	0				
On the other fall of D was ſea-oak, meaſuring 9 creelfuls	3	2				
The averages of which are			9	5	1	0
The fall K grew ſea-oak, with a ſmall mixture of bell-ware; it produced			10	5	3	0
The average of theſe numbers are, 10⅓ creelfuls, and 5 cwt. 2 qrs. 8¼ lib.			31	16	2	26

Of courſe, a Scots acre ſhould produce about 1653 creelfuls, weighing about 44 tons 12 cwt., which, according to the above opinion of kelpers, would produce about 1 ton and 14 cwt. of kelp of 21 cwt. per ton, which is about 13 cwt. more *p.* acre than the reſult of the above manufacture.

The ſize of the creels here alluded to, are ſimilar to thoſe uſed by the Edinburgh porters. One of the largeſt, on meaſurement, was found to contain 6000 cubic inches; one of the ſmalleſt meaſured about 3840 inches cubic: So the average ſize of theſe creels may be eſtimated at about 2.8 cubic feet. The people, at filling them with ware, cram and heap them.

Therefore, ſhould there be any doubts as to the propriety of cultivating kelp ſhores, for the purpoſe of making kelp, (of which there certainly ſhould be none), it appears clear, by the laſt experiment, that, as a manure, it is ſtill more worthy of attention, every ton being ſurely worth 3s., which, at the above expenſe of cultivation, would pay more than 10 per cent.

The mode of cutting and manufacturing kelp on the weſt coaſt of Scotland, appears ſlovenly. No attempt ſeems hitherto to have been

been made to cut the tangle (*Fucus digitatus* Linnæi), which is almoſt never uncovered by the loweſt ebbs, and is a moſt valuable ware. A ſcheme for doing ſo is in contemplation.

It appears a much more rational plan for proprietors to improve the property they preſently poſſeſs, than to make new purchaſes, and leave the whole to their heirs in a ſtate of nature. The improvements which may be made in the Highlands at a ſmall expenſe, by draining, watering, and trenching, are immenſe. The inhabitants ought therefore to feel the moſt lively gratitude for the intereſt and exertions which Government are taking for the improvement of the country, by roads, bridges, and canals. At ſame time, it appears a matter of great ſurpriſe, that Government ſeems, in a great degree, to overlook the incalculable advantage it would be to the nation at large, were the deep ſea, or Dutch mode of fiſhing herrings introduced on our own coaſts. It certainly would be no difficult or expenſive undertaking, to liberate ſome of our Dutch priſoners, and equip a few veſſels for this purpoſe, under the immediate ſuperintendance and direction of a perſon of acknowledged ſkill and perſeverance. The ſucceſs of the ſcheme it is humbly, but confidently thought, would be of more real and immediate advantage, than all the roads, bridges, and canals in the Highlands. It appears no difficult matter to prove, that the herring fiſhery, as it is preſently conducted, does, on an average of years, as much real evil as good to the inhabitants of the Highlands and Iſlands of Scotland.

D.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Some particulars reſpecting the Husbandry of East Kent, and the Mode of Cropping adopted there.

SIR,

I TAKE the liberty of handing you a few particulars of the *round tilth ſyſtem*, as purſued on our good lands in East Kent, which may be inſerted in your Magazine, ſhould you judge them of ſufficient importance.

Rotation.—1ſt, Barley—2d, Beans—3d, Wheat.

The wheat *gratten* is ploughed directly after the wheat-ſeed is finiſhed, if the weather is dry, and croſs-ploughed as ſoon as poſſible in the ſpring; again ploughed two or three times, according to the cleanneſs of the land. And, in April, barley is drilled in rows, from eight to ten inches apart, at the rate of 2½ or 3 bushels per acre. The crop is hand-hoed and hand-weeded. As early as poſſible next winter, manure is carted out, (40 or 50 two horſe cart loads per acre), spread upon the barley ſtubble, and

and the land ploughed. Beans are drilled eighteen or twenty inches apart, 3½ and 4 bushels per acre; and as soon as they are up, the land is harrowed across the rows, and horse and hand-hoed, (generally three times each), and kept completely clean. At the last horse-hoeing, the beans are earthed up with a plate; and when harvested (often before the beans are carried), the land is broad-shared or *spuddled*, and the rubbish (if any) either burned or carried off, till perfectly clean. It is then ploughed, and either drilled with wheat, 3 bushels per acre, or sown broadcast, from 3½ to 4 bushels: the wheat, if drilled, is hand-hoed and hand-weeded; if sown, hand-weeded only. This is the old Kentish *round tilth*; and on good land is very productive. What breadth of clover is wanted for soiling (universally practised) is sown, of course, on the barley, and is again broken up with the bean *gratten* for wheat. Our land is ploughed with a turn-wrest plough, perfectly flat (as if dug with a spade), from five to seven inches deep for corn crops; and in wet soils, ploughed also with a turn-wrest, in flat ridges, half a rod or a rod in width; and the furrows are opened, after the corn is harrowed in, with an old plough with a double wrest, which lets off the water, so that the marks of the furrows are scarcely visible. In this way, when the corn is in ear, the fields always have a very neat and husbandmanlike appearance, far superior to the high round ridges of many other counties, where the tops carry the only good crop, and the lower parts generally a mass of rubbish. It also is very favourable for mowing the corn, and when the land is required to be laid down in pasture. No where are seen sush good crops on poor land, nor crops, in general, so clean and free from weeds as in Kent.

In addition to the above description of what is called the *round tilth of Kent*, I beg leave to subjoin an account of the mode of farming pursued by myself. According to it, the land is kept in a constant state of amelioration; and few (very few) acres ever require summer fallow, whilst the crops are large and the value considerable, as may be seen from the under mentioned averages. If the land, in the course adopted, tires of broad clover, a crop of spring tares can be taken: if potatoes are thought to recur too often, Mazagan beans may be drilled in furrows, eighteen inches apart; and, at their last earthing, turnips may be sown, in which way they often succeed as well as if cultivated on a fallow.

Eighty acres of good loamy soil, worth from 20s. to 30s. *p.* acre, and managed in the following course—1st, Potatoes; 2d, Barley; 3d, Clover; 4th, Wheat. Mode of operation—After wheat season, the *wheat gratten* is ploughed; and, in the spring, the dung (long) 30 loads per acre, is carted out, and spread on the land. In April or May, potatoes are planted (6 sacks per acre), by opening

opening balks with a plough, at eight to the rod; and the seed is covered by splitting the balks. It may perhaps be more eligible, not to carry out the dung till after the balks are opened, when it may be put into them by men from the cart, *before* or *after* the seed. When the potatoes appear, the land is dressed down fine; hand-hoeing and skimming are given through the summer; and, in August, they are earthed up with a double mould-board plough. In November, the crop is ploughed up by the same plough, opening every other furrow, and gathered by women. Then the other furrows are opened and picked; the ground wrought with heavy harrows well loaded, and again picked. The land is then left till spring; and, in March, ploughed, and immediately drilled with barley, (3 bushels per acre), from seven to nine inches apart. The barley, when up, is hand-hoed, and sown with clover, which may the next spring be either coal-ashed or gypsumed. The clover (if near a town where there is a demand for green food, may be sold standing; the purchasers being at all expenses of removing it, &c.) is either fed with sheep, in which case some trefoil seed should be mixed, till June, and then seeded; or the first crop, or both, are mown for hay. In November, the lea is ploughed and drilled with wheat, 3 bushels per acre, from seven to nine inches asunder; and well hand-hoed and hand-weeded during the summer.

POTATOES—Expenses 1st Year per acre.

	L.	s.	d.
Ploughing the wheat gratten -	0	10	0
Harrowing -	0	1	0
30 Lds. long dung and carriage -	7	10	0
Spreading -	0	1	6
Furrowing and covering the seed -	0	5	0
Seed and planting -	2	0	0
Harrowing when the potatoes appear -	0	0	6
Hand-hoeing -	0	4	6
Skimming and earthing up - -	0	7	0
Picking up 120 sacks, at 3d. - -	1	10	0
Ploughing up, harrowing and storing, &c.	1	15	0
Rent and rates, 40s.—Tythe, 8s. -	2	4	0
	L. 6	5	6

Produce per acre.

	L.	s.	d.
120 Sacks, at 4s.	L. 24	0	0
Expenses -	16	8	6
Profit per acre	L. 7	11	6
Profit on 20 acres	L. 151	10	0

2d Year, BARLEY.

One ploughing	L. 0	12	0
Harrow and roll	0	4	6
Drilling and hand-hoeing	0	5	0
Mowing	0	2	6
Binding, 2s.—carrying, 6s.	0	8	0
Thrashing	0	12	0
Binding straw	0	4	0
Seed	0	11	0
Rent, rates and tythe	2	6	0
	L. 5	5	0

Produce.

6 Qrs. barley, 30s.	L. 9	0	0
2 Loads straw	4	0	0
	L. 13	0	0
Expenses	5	5	0
Profit per acre	L. 7	15	0
Profit on 20 acres	L. 155	0	0

3d Year, CLOVER.

Seed and sowing	L. 0	8	0
Stone-picking	0	2	0
Coal-ash or gypsum	1	10	0
Mowing and harvesting	0	15	0
Rent, rates and tithe	2	6	0
	L. 5	1	0

Produce.

4 Tons hay	L. 12	0	0
Expenses	5	1	0
Profit per acre	L. 6	19	0
Profit on 20 acres	L. 139	0	0

I have sold clover standing to cow-keepers, &c. as high as 17 guineas per statute acre.

4th Year, WHEAT.

Ploughing	L. 0	12	0
Harrowing & Drilling	0	5	0
Handhoeing	0	3	0
Harvesting, &c.	0	18	0
Thrashing, &c.	1	1	0
Seed	1	2	6
Rent, Rates and Tythe	2	6	0
	L. 6	7	6

Produce.

4 Qrs. Wheat, 3l.	L. 12	0	0
Straw 48s., Stubble 6s.	2	14	0
Produce	L. 14	14	0
Expenses	6	7	6
Profit *per* acre	L. 8	6	6
Profit on 20 acres	L. 166	10	0

RECAPITULATION.

	Expenses.	*Produce.*	*Profit* p. *Acre.*	*Profit on* 20 *Acres.*
Potatoes	L. 16 8 6	L. 24 0 0	L. 7 11 6	L. 151 10 0
Barley	5 5 0	13 0 0	7 15 0	155 0 0
Clover	5 1 0	12 0 0	6 19 0	139 0 0
Wheat	6 7 6	14 14 0	8 6 6	166 10 0
		Total Profit *per Annum*		L. 612 0 0

Trusting

Truſting the above may be of ſervice to your readers, and ſerve as an inſtance of my deſire to ſupport the Farmer's Magazine, I am yours, &c.

A MAN OF KENT.

NOTE BY THE CONDUCTOR.

THOUGH the rotation, mentioned by our reſpectable correſpondent in the above letter, abſtractedly conſidered, is far from gaining our approbation, yet, as it appears to be executed with much advantage to the occupier, we muſt preſume that it is well calculated for the ſoil and climate of the diſtrict in which it is practiſed. Judging, however, by the expenſe of labour in our own country, we are inclined to believe, that the charges of management are conſiderably underrated, or that the full particulars are not expreſſed.—As, for inſtance, what are we to think of the culture of a potatoe crop, which had got no more than one *clean* ploughing; or of a courſe of crops, where no more than three ploughings are given in four years? Such a mode of culture may, for all we know, anſwer well in the fertile diſtrict of Kent; but in almoſt every other part of the iſland, where huſbandmen muſt earn their bread by the ſweat of their brows, would run out the land, and greatly deteriorate the ſame in a few ſeaſons.

With regard to the annual profit, all we can ſay is, that it is a good thing to be a farmer in Kent. If eighty acres of land, which will leave a gain of 612l. to the tenant, can be rented at 100l., or even 120l., then, to be ſure, the criterion adopted by the Miniſter, in aſcertaining the property tax upon tenants, is a falſe one. The Miniſter was pleaſed to conſider the income of ſuch, as not exceeding one half of the rental; whereas, it would appear, from the above ſtatement, that the rental does not, at the moſt, amount to one fifth part of the income. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Queries relative to the Smut.

SIR,

I HAVE obſerved, ſprung from the ſame ſeed of oats, three ſtalks, one of which bore a head entirely ſmutted or blacked; another had a healthy head, entirely free from that diſeaſe; and the head of the third contained grains, partly ſmutted, and partly free from ſmut. Theſe ſtems were all vigorous, and the ſmutted head had not opened to the day.

Many heads of wheat, alſo, I have ſeen containing grains, ſome [illegible] in the ſame head.

Now,

Now, I beg to aſk the following queſtion, with theſe facts in view: Upon what principle does pickling or ſteeping ſeed wheat act in its ſuppoſed operation of preventing ſmut?

Further, Did ever any one ſee a field of wheat entirely free from ſmut, whether the ſeed had been pickled or not? If the anſwer is negative, as I believe it will be, Does this denote, that pickling the ſeed is not infallible in preventing ſmut, or what elſe? And if infallible, Why are not ſeed-barley and oats alſo pickled, to prevent the ſmut? A. S.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

A New Edition of Language to Horſes recommended.

SIR,

ALTHOUGH I have poſſeſſed a piece of ground for a long time, yet I cannot pretend to be a farmer. One thing, in practice, ſtrikes me as requiring amendment, namely, the language uſed to horſes, which varies in every diſtrict. I obſerve, with grief, that every one who works horſes adopts a different language or mode of ſpeaking to the animal. Hence, every new ſervant that a farmer gets has a different mode of ſpeaking to his horſes, which it is impoſſible they can underſtand; and becauſe they don't underſtand it, the poor creatures muſt undergo many a ſore thraſhing, till they comprehend what is meant. This comes to paſs ſo frequently, that a remedy ſhould be provided. When a horſe is ſold, he is ſubjected to the ſame treatment; and by ſuch uſage, the poor animal is, in many caſes, rendered altogether ſtupid; but, beſides the whipping the poor beaſt gets, the work is frequently not ſo well executed, whilſt the harneſs and implements are broken or injured.

Now, what I would propoſe is—That ſome of your gentlemen farmers, or ſociety of farmers, ſhould meet and chooſe a few ſhort words that may ſerve to direct horſes in all caſes, and explain when and how they are to be uſed, which may be done in very little room. Alſo, every farmer ought to be enjoined to get a copy thereof; and every lad that pretends to work with horſes, to have it by heart; and whoever deviates from it, let him be caſhiered; for, if there was one mode of ſpeaking to horſes at work through the whole nation, it certainly would be of great utility.

If you think the above deſerves a place in your Magazine, it may ſtimulate ſome qualified farmers to do the needful, and will oblige many of your readers, and none more than, Sir, yours, &c.

A FRIEND TO AGRICULTURE.

Kilmarnock, 11. *Oct.* 1806.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on the High Rate of Rent, and Prices of Provisions Labour.

(*Vide* two Essays on these Subjects, No. 27.)

SIR,

'PERMIT me to send you a few remarks which occurre me on reading two papers in the 27th Number of your Magazi the one entitled, 'Considerations on the Present High Rat Rents;' and the other, 'On the Prices of Provisions and bour.'

The rapid progress of agricultural improvement during the twenty years, must afford much pleasure to every lover of country. I was in hopes that this improvement was founded a solid basis; and so very agreeable was this belief, that I dulged myself in the prospect of its continuance. Your cor spondent, however, 'on the present high rate of rents,' seem entertain a different opinion; and, fancying that he sees farther futurity than other people, has prophesied, most authoritativ the ruin of all agricultural speculators. In every kind of b ness, there will be adventurers without the necessary knowle and capital, and in that of agriculture, among others. The fat these people, it is very evident, must be bankruptcy sooner or la I cannot however, bring myself to think that this misfortune happen to the whole, or even to a considerable number of farmers, who have of late years commenced their career. I s take the liberty of examining the arguments upon which y correspondent has founded so gloomy a presage; and I hop satisfy your readers, before I close my remarks, that there is ground for any alarm of the kind.

It is said by your correspondent, that 'the landlord fin his interest advanced in receiving a higher rent, and his es improved, at same time, by preferring such tenants, has adop the system of throwing a number of his smaller farms into o and from the number of competitors this mode of policy bri forward, he has it in his power to exact the highest rent that lands will yield. How far such policy will ultimately prove s cessful, time only will determine.' This gentleman, in the p sage which I have just now quoted, would seem to condemn olicy of landed proprietors throwing several farms into a large Although I am most clearly of opinion that large farms are beneficial to the country, to the landlord, and to the tenant, mall ones, I shall not now enter into the question. I sha

present do no more than point out a mistake into which your correspondent has unwarily fallen. It is very evident, that the price of any commodity will be in proportion to the demand and quantity combined, and that demand must be regulated by the power or ability of purchasers. Let a distrist of country be divided into a thousand farms of 100l. a year each, and another of the same extent, into one hundred farms of 1000l. *per annum* each. Let it be supposed, also, that the agricultural capital in both of these districts is the same. Now, let me ask your correspondent, in which of these two districts will there be the greatest demand for farms? Surely in the former; for the ability of the individuals to take farms, is as a thousand to a hundred, or ten to one. As there can be no doubt, for the above reason, that there will be more bidders for small than for large farms, the rent of the former ought to be higher than that of the latter, from the competition being greater in the one case than in the other. The number of competitors, therefore, in the case of large farms, cannot, according to the foregoing reasoning, enable the landlord to exact the highest rent his lands will yield, as alleged by your correspondent. If large farms do afford a higher rent to the landlord than smaller, it must be for other reasons than the number of competitors. The principal cause is, that by a more enlightened and economical mode of arrangement, and by fewer hands upon large than upon small farms, there must necessarily remain a greater quantity of superfluous produce for market in the one than in the other. At settling the terms of the lease, part of this overplus is supposed to go to the landlord, and part to the tenant; and for the same reason that a landlord gets a higher rent for the farm, the tenant makes a greater profit. I could give various other reasons, perhaps of equal effect, to account for the fact; but that would be taking up the room of your Magazine with a discussion foreign to the point at issue. It is enough if I have demonstrated, that the exaction of higher rents for large farms, as your correspondent terms it, is not owing to a competition among agricultural bidders.

Your correſpondent is of opinion, that 'if the ſyſtem continue to gain ground, a number of perſons engaged in the cultivation of the ſoil muſt emigrate, as has been the caſe in the Highlands.' This ſentence contains the enunciation of what has been termed a truiſm, and, therefore, I am not diſpoſed to deny the aſſertion. It is more likely that I ſhall differ with him in regard to the nature of the effects, good or ill, to be produced by that cauſe. To me it appears as clear as noon-day, that agriculture is to be more improved by the cultivators of large than ſmall farms, and, therefore, this ſyſtem muſt be adopted, whatever emigra-

tion may be the conſequence. Good ſeldom comes unattend with ill, and in moſt caſes it is but a choice of two evils. In t preſent, a great and eſſential good is promoted, with a little p tial evil. I do admit that, at the date of the change of the ſy tem from ſmall to large farms, and for a little time thereaft the competition for farms will be upon the decreaſe; but I a prehend that the demand, and the article for which there is a d mand, will ſoon find their level. If this ſhall be the reſult, th the number of actual farmers will bear the ſame proportion to t farms in the market; and the competition will be the ſame l large, as when ſmall farms were the order of the day. It f lows, therefore, that landlords need be under no apprehenſion being under the neceſſity, on this account at leaſt, of chang their ſyſtem, and of again returning to that of ſmall farms.

It cannot be denied, that the quantity of grain raiſed in Gr Britain is unequal to the conſumption of the inhabitants; but f there is nothing prepoſterous in abſtracting from agriculture number of hands employed in it. I have already ſaid, and it c not be denied by any perſon in the ſmalleſt degree acquain with the ſubject, that the ſuperfluous produce of a large fa for market uſe, is much greater than from a number of ſmal farms embracing an equal quantity of ground. If this be caſe, then, it follows, that there is not only nothing abſurd leſſening the number of cultivators, but a clear gain made, proportion to the number of uſeleſs mouths that are thus adrift. If there be as much raiſed, and leſs conſumed, then nation gains in proportion to the difference between the quan grown and the conſumption, and this ſuperfluous produce, t was in uſe to be conſumed by an unproductive claſs of people, go to the ſupport of many other orders of ſociety, who will c on the ſyſtem of reproduction for ever.

Your correſpondent, ' on the prices of proviſions and labo ſtates, ' that the numerous petitions of our manufacturers aga the late corn bill, appear to have proceeded upon this princi that a low price of grain would be accompanied by a correſpo ing low price of labour;' a poſition which he denies, and aſſi his reaſons for the refuſal of his aſſent to it. That ſuch was idea of the manufacturers, in the oppoſition they gave to corn bill, there can be no doubt of; and, inſtead of be theoretically and practically erroneous, it is moſt ſound and ju Common ſenſe, I ſhould imagine, might teach the meaneſt derſtanding, that, as labour muſt be paid for by proviſions, t money which repreſents theſe proviſions, muſt be in a greater maller quantity, according to the price. If proviſions be rep ſented by 6, and labour paid by that number, then, if proviſi

be repreſented by 12, labour will be compenſated by that number alſo. In ſhort, if proviſions be dear, labour muſt be dear alſo, otherwiſe the proportion which neceſſarily exiſts between theſe two, if left to themſelves, has been ſomehow or other deranged, and the people, who are the cuſtomers, muſt be more or leſs in a ſtate of want. Indeed, it is upon this proportion which labour in its payment bears to the price of proviſions, that the happineſs of the lower claſs of people all over the world muſt neceſſarily depend. If the price of labour be high, or bear a juſt proportion to that of proviſions, then the bellies of the people will be filled; but, if labour be low and proviſions high, then they muſt be in a miſerable ſtate of exiſtence. I am perfectly aware that the price of labour, like that of any other commodity, depends upon the proportion between the demand and the quantity of labour in the market. If we were to ſuppoſe that the quantity of labour in the market was great, and the demand limited, then the value of that labour would be comparatively low, whatever the price of proviſions might be. This depreciation, however, in the value of labour, depends upon a principle altogether different from the relative proportion between it and proviſions. The quantity of labour and demand for it in the market, was ſuppoſed to be the ſame after the petitions of the manufacturers as before; therefore, upon the ſuppoſition of there being no variation in theſe particulars, they conceived, and rightly, that a low price of proviſions would be accompanied by a low price of labour. Does not every perſon know, that the high rate of wages in this country, is in a great meaſure (I ſhall not ſay altogether) owing to the high price of grain and other proviſions. *Cæteris paribus*, the one muſt neceſſarily fall or riſe with the other. Your correſpondent's reaſon for denying a poſition ſo very clear is, that, in all countries bleſſed with a fine climate and plenty of proviſions, the people are poor, and that, in climes leſs fortunate, they are comfortable and happy. Although your correſpondent has the authority of Hume, in regard to France, Italy and Spain, he would find, were he to take the trouble of ſeeking, that the cauſe lies deeper than what he thinks. Was the genialneſs of the climate the cauſe of the poverty of the people, it would act univerſally, and without exception. But, did not the people of ancient Greece and Rome, ſucceſſively the maſters of the world, inhabit the ſame countries that their degenerate children now do? The truth is, that plenty has not neceſſarily any influence over the wealth or poverty of a country, though ſome rich countries in modern times preſent a picture of indigence. The true cauſe of theſe fine countries being in a ſtate of poverty, is the want of the bleſſings of freedom; and it is to the poſſeſſion of theſe, that

countries naturally barren have become rich and proſperous. was this invaluable gift that nerved the arm of the ancient R man, under the heat of a burning ſun; and, to the want of is owing the ſupine degeneracy of the preſent race. At both p riods, the climate was the ſame, but their political liberty w different; and, ſince there did not exiſt a difference in their mo ſtate, it muſt be owing to the cauſe that was different at the two periods, namely, the want of political liberty. The reaſ of the low price of grain not being accompanied by a low pri of labour in North America, is owing to there not being a d proportion between the quantity of labour in the market and t demand for it. The quantity of the former is ſmall, and the l ter great beyond all former example: for that reaſon, there low grain and high wages in that extenſive continent. Eſtabli however, that proportion, and a low price of proviſions will ſtantly follow low wages.

The effect of too great a facility of obtaining food in repreſſi induſtry, is ſufficiently apparent, according to your correſponde in this country, and particularly in royal burghs. I never kn till this moment, that royal burghs were at all remarkable for facility with which the burgeſſes provided food for their bod On the contrary, I imagined that the inhabitants, ſo far from quiring their daily bread with eaſe, paſſed a poor, pitiful ex ence. I ſhould think that royal burghs was but an unhappy ample of the *otium cum dignitate.* Their indolence, I rat think, is entirely owing to the baneful influence of politics act upon a ſmall ſurface. I agree with your correſpondent, that, *teris paribus*, the price of labour, like the price of any other c modity, depends entirely upon the proportion between the mand and the quantity in the market, and that, whatever lef the demand, muſt lower the price of labour. I do by no m coincide with him, however, in the aſſertion, that a low pric proviſions, by increaſing the facility of living, will decreaſe quantity of labour in uſe to be brought to market. It often ha pens, that high wages occaſion a partial diſſipation among t lower claſſes, and affords their maſters a handle for exclaimi againſt their bad effects. But to ſuppoſe that a liberal rew will have the effect of making people work leſs, and that th will labour the more the poorer they are paid, is downright no ſenſe. It is upon the principle of labour being always in prop tion to the payment it receives, that what is called piece-wor now ſo much practiſed in this country. Any man of the ſma experience, knows very well the difference between the daily bour of the man who earns two ſhillings, and that of the labo by the piece who makes five ſhillings in the ſame period. W

a few exceptions, which do not affect the general rule, the work is in proportion to the reward, the effect to the cause. 'Man,' says your correspondent most triumphantly, 'is still the same in all countries, and a free importation would occasion such an influx of corn, and such a depreciation in the value of all the necessaries of life, as would assimilate us to the nations of more genial and productive climes, and plunge the nation into a gulf of slothful indigence and misery.' Man is not the same in all countries by any means, unless the circumstances in which he is placed be exactly the same. The cause which is supposed to produce this uniformity must be universal, and act with the same energy throughout, otherwise the monotony cannot hold. Now, the inhabitants of this country are not *in pari casu*, in the same circumstances, with the modern Spaniard; therefore he is not the same animal, as we all know. Thank God, he reaps the fruits of his labour, which the other does not; and therefore, though wallowing in plenty, he does not cease to be industrious. I have the honour to be, &c.

R. M.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

WHEN examining some old papers lately, I fell in with the following copy of a letter, wrote in 1783, to the late Andrew Wight, Esquire, at Ormiston, author of the '*Present State of Husbandry in Scotland*,' then in the course of publication. Mr Wight was the first of our Scotch surveyors who took the field to describe the rural practices of this country; was the intimate friend of that singular genius Lord Kames, and recommended by him to the Board of Trustees for the Management of Improvements, &c. in Scotland, as a fit and proper person for executing the business which the trustees had in contemplation. It appears that Mr Wight had requested some information from the author of the letter, on points connected with the work which he then had in hand, and that an opportunity was thereby furnished, of stating some grievances which were thought to bear hard upon a particular class of cultivators, namely, those who cultivated flax for the express purpose of saving the seed. A few years before the period in question, owing to a war with Holland, the demand for flax seed had increased so much, as to cause the attention of many farmers to be directed to the growth of that article; and the trade was not a bad one, owing, in a

great measure, to the premium of one shilling per peck allo
by the trustees on all seed properly saved and fit for sow
This new branch of farm culture, therefore, increased rapi
and seed, which excelled that of the Dutch and Baltic imp
tions, was produced in such quantities, as almost to prec
the necessity of further importation, unless in such a degr
might be required to prevent a degeneracy of home proc
In this stage of the business, some regulations adopted by
trustees, threw cold water on the growth of seed, and occasi
almost every farmer to renounce the culture of an article the
rendered unprofitable. Had the trustees pursued their ori
system a few years longer, there was every chance that the
would have soon been put on a solid footing, and that the
would have established its character, which every person k
to be difficult with a new article. To bring them back to
ground formerly occupied, seems to have been the intenti
the person who addressed Mr Wight in the following letter.

I am yours, &c.

ARATC

Letter to Andrew Wight Esq., Ormiston, February 7. 178

I AM favoured with yours of the 5th current, and wou
exceedingly happy to give you any information upon the su
which presently employs your attention, were not my ma
ment almost in every respect similar to the common practi
the country; but I embrace the opportunity now offered, o
ing a few words on a new branch of husbandry lately adopt
many farmers, and trust that exertions on our behalf will be
so as the grievances complained of may be remedied.

I have sown flax these four years past, chiefly with a vi
save the seed, and, in general, have been well paid for my
ble. There is a great deal of my farm very fit for the cultu
this article, especially if seed is the alone object; and had
trustees continued their premiums upon the old plan, I mea
persevere; but now that they are put on a new footing, it is
necessary for me to sow with any prospect of reaping a halfp
of aid from the public fund under their management.

My opinion upon flax and flax-seed I shall give you in a
words. I think, in this county (East-Lothian), we should c
have seed in view. The crop of flax will often, very often
pay workmanship. It is so hardened by bringing the
maturity, that it is absolutely hurt in quality, and decrea
quantity; and as the seed is the most profitable of the
deserves the most attention. I suppose you could be of

flax raisers, by proper representation to the trustees upon the subject of their premiums. If flax husbandry was worthy of their fatherly care in its infancy, it consequently deserves a continuance of their regard till it arrive at such a degree of perfection, as to be able to stand upon its own feet. I will venture to say, that if premiums are given in last year's mode, the sowing of flax for seed will be annihilated in a couple of years.

You well know, that the present plan for distributing premiums for seed, is where the competitor raises thirty pecks upon an acre, and even then he is confined to six acres, and can have no claim for more. Now, in general, the average of crops is much below thirty pecks per acre; consequently, very few can hope to participate of this laudable fund.

The county of East-Lothian has, within these few years, raised a very great quantity of seed; and, as it has already been observed, seems much more adapted for raising seed than flax. As a corroborating proof of this opinion, I refer you to the advertisement upon the distribution of premiums for last season, where you will find not one farthing for flax; but, on the other hand, 300l. for seed within this single county.

The ground upon which flax is generally sown, is a light moorish soil, or soft soils free of annual seeds; sometimes after a fallow, and sometimes after oats. Very few people sow it upon good land; and unless it be sown upon rich land, I apprehend weighty strong flax is not to be obtained, though this does not hold with regard to seed. Better crops of seed, in proportion, are got upon the kinds of land above mentioned, than on rich soils when flax is taken for a crop; and certainly this plan deserves approbation, as, according to it, flax is only sown where corn is not expected to be good, and the better land reserved for grain.

Another observation may be made. The climate of this county is better calculated for bringing seed to full perfection than in other parts of Scotland: we have in general warmer weather, much drier, and earlier harvests, than upon the west coasts, and without these the seed is not properly nurtured and ripened. Again, the raw climate and moist soil of other parts of the kingdom, point out where flax will thrive more abundantly.

Upon these principles, I venture to assert that East-Lothian would not only be benefited by the premiums being distributed as formerly, but that the kingdom itself would receive a lasting advantage. We were just approaching the period, when flax growers in general might have been supplied with seed at home without importation; but if assistance is withdrawn, the farmer will find it inconsistent with his interest to raise this commodity; and,

and, as it must be obtained, the country will be drained of sums to procure it from abroad.

The old premium was one shilling per peck upon any qu of good seed raised, and no restriction as to the number of upon the acre. If the Trustees' funds cannot admit a co ance of this rate per peck, let it be reduced to 9d., 8d., o 6d., as circumstances allow. A plan of this nature gives chance to all. According to it, a stimulus, a temptation forded to flax raisers for persevering in their trade, notwith ing of the public assistance being somewhat lessened. I r mend this subject to your attention, and certainly it is of derable importance to *the present state of husbandry in Sc* I am, &c. &c.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Recipe for Salting Butter, &c.

SIR, *Dovernside, Banffshire, June 25.* 18

I HAVE just been reading your receipt for making D cheese, in your Magazine of November 1803. You there r any of your correspondents to give you information of th method of making and curing butter. I can only send y account of what is practised in my dairy. If you think it inserting, it is much at your service. I am, your humble se

BETTY BUTT

The cows are fed upon fine old grass by the river side. milk is kept in tin plates, and the cream taken off, after sta twenty-four hours. When the weather is cool, the bu made twice a week; in summer, three times. The chur large barrel. One end, to which all the inside work is comes off, which makes it very easily cleaned.

When the butter is made, if you wish to keep it fresh it well from the milk; then beat it through pickle, and m up; put it in a deep stone dish, with spring water over i put on a cover to keep out the air.

Receipt for Salting Butter.

Wash your butter very clean in a wide deep vessel; beat drops of saltpetre for each pound; and to half a stone of allow half a pound, and half an ounce of common salt; c your saltpetre first, and then the salt; put them all on

you begin to mix the butter, and then, with the clapper, mix it through as well as possible, and pick out every lump you can find. Let it stand in a stone dish till the next time you churn; do as above, and mix it with the butter in the stone dish; put it all into your kit, and put no pickle on it till the kit is full. Observe always to salt the second churning, and mix it with the first, before it is put into the kit. When full, put strong pickle on it, and a bit of linen to keep out the air.

N. B.—When your salt butter is done, do not clean the kit, but let it stand with any bits of butter that may remain on the sides, and the pickle that is in it, till a few days before you are going to fill it; then clean it well, and rub all the inside of it with salt. If it has stood very long, and the butter been rancid, after cleaning it as above, put in two spadefuls of garden earth; put a cover on it, and let it stand a night; then turn it out, and clean your kit thoroughly before you use it. B. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Husbandry of Wigtonshire.

Pater ipſe colendi
Haud facilem eſſe viam voluit; primuſque per artem
Movit agros, curis acuens mortalia corda.

VIRGIL.

Father Jove himſelf willed the ways of tillage not to be eaſy, and firſt commanded to cultivate the fields by art, whetting the minds of mortals with cares.

SIR,

AMONGST the many valuable eſſays which have appeared in your Magazine, few have chanced to attract more of my attention than thoſe of your excellent correſpondent Agricola. The diſtinct account of Ayrſhire husbandry (vol. V. p. 73.) furniſhed by that gentleman, I have repeatedly read with pleaſure and approbation; but, in attempting a ſimilar account of West Galloway or Wigtonſhire, I am afraid, if known, that I would be accuſed of preſumption; for my experience and opportunities of obſervation, to ſay nothing of my defective compoſition, are undoubtedly much inferior to thoſe of Agricola. It is, then, with diffidence that I proceed to deſcribe the husbandry of this county; but I flatter myſelf that my intentions, at leaſt, will not be blamed or accuſed.

West Galloway or Wigtonſhire, though the moſt ſouthern diſtrict of Scotland, is one of thoſe places conſidered as remote from the centre of intelligence and refinement. Surrounded on three ſides by the ſea, its ſituation is much inſulated, and placed

at

at a distance from examples of improvement. It long remained neglected, after considerable advances had been made in other districts of this ancient kingdom. The feudal spirit long continued to influence the proprietors; and perhaps it has not yet wholly ceased attempting to display its symptoms amongst some of their heirs and descendants.

This shire is said to contain a surface of 469 square miles, or 238,721 Scotish acres. It abounds with little hills, but has no mountains; and though it may be certainly called a low lying country, yet the surface is greatly broken, and very irregular. I cannot pretend to say what proportion of this surface is arable: it is perhaps not two thirds of the whole; but a considerable proportion might be rendered arable, which does not at present come under that description.

It is a well known fact, that the southern and western coasts of Scotland have a climate more moist than the eastern coasts. The vapours wafted from the Atlantic Ocean, here descend in frequent damps and rains, and may be considered as expending themselves before they arrive upon the eastern side of the island. Wigtonshire is perhaps less liable to this excess of moisture than the tracts of country extending to the north, which are in many places mountainous, attracting and arresting the vapours and clouds which accumulate amongst those more elevated regions; yet an idea prevails, that the climate of this district is unfriendly to the growth of barley and wheat, especially the latter. How far this is well founded, I will not pretend to determine; but I suspect the belief does not wholly rest upon fair and impartial observation and experiment. Indeed, upon heavy clay soils, and low tracts liable to be injured by excess of humidity, the operations of the husbandman are greatly interrupted in the winter season, by frequent falls of rain, whilst the soil seldom receives much amelioration from the influence of frost, as frost of many days successive continuance in Wigtonshire, is what rarely occurs. Here, it freezes and thaws, thaws and freezes in rapid succession.

The spring is much retarded by cold easterly winds, which often prevail in this season; and, at this time, stock are apt to suffer most severely; for it is not here, as in some other districts where the chief object is, to fall upon means of converting straw into manure. In Wigtonshire, both straw and hay are often barely sufficient to support the farmer's black cattle and horses; and spring is the critical period when fodder is scarce, before the pastures become useful. These serious inconveniences are no doubt much alleviated, by adopting the mixed system, whereby a succession of green or succu-

may be provided throughout the whole year; and it is matter of serious regret, that this has not hitherto been more universal.

There is, however, one fortunate property in our climate, peculiarly observable in autumn; that is, rain is generally followed by wind, which, though it may occasionally shake the standing corn, yet prevents any serious damage from befalling that part which is cut down. Thus, nicety of stacking is by no means necessary, and as little practised; for corn can be often safely stacked or housed the second day after a heavy fall of rain.

The soil throughout this county is a good deal diversified; but by much the greater part is a shallow, brown, hazel earth, incumbent on different kinds of subsoil, though much of the subsoil consists of gravel. There are considerable tracts of reclaimed moors, the greater part of which are incumbent upon subsoils retentive of moisture; consequently less genial to the growth of turnips, and other ameliorating crops.

No coal or limestone having been hitherto found within this county, these essential articles are imported; and though there are large tracts of moss, yet, in several situations, fuel of this kind is both scarce and distant, so that coal must be had recourse to. Marl has been found in several parts, but is now much exhausted.

As nearly as I can learn, marling of land came into practice about forty years ago, and liming commenced several years afterwards; so that it is only from this period we can date any thing resembling improvement in Wigtonshire farming. But the sinews of war were wanting, for there was almost no capital in the country.

The landlords themselves were blinded by dissipation and prejudice; and what could be expected from a poor and unassisted tenantry? The great effects of lime and marl, however, when applied to the soil, excited many individuals to unusual efforts; and they found their industry amply rewarded. But the landlords, who seem to have studied any thing but their own interest, shut their eyes to all consequences, and in many instances allowed the tenants to persevere in scourging the land with white crops in succession, until the soil was nearly reduced to a *caput mortuum*. The tenants, solicitous to acquire wealth by what they thought the speediest and surest means, reflected not upon the injury they were occasioning; but, with a stupid, uncontrouled avarice, they hastened to rob the soil.

I believe something similar to this has happened in many other districts; therefore the opprobrium of such injudicious management is not peculiar to Wigtonshire; yet, seeing the ruinous effects such proceedings have produced, we now contemplate these effects

effects with feelings of warm disapprobation; and are endea ing, in many instances, to repair the evil, a work not easil complished.

About 30 years ago, smuggling established itself with a ness in this quarter, that one can now scarcely imagine cor possible in a country under a settled state of government. business was carried on long before, upon a more limited with the Isle of Man, the proximity of which, together wit separate laws and government it was under, held forth a s temptation to a people who were not accustomed to any re habits of industry and useful employment; and, indeed, the still some respectable individuals amongst us, who laid the dation of their fortunes in their little adventures to and fro Isle of Man.

The trade, however, at length assumed a more general racter, and became so extensive in its operation, that goverr felt the necessity of adopting strong measures to suppress it, they certainly accomplished, and many of the adventurers involved in ruin. Both in the moral and natural world, hov we see good frequently proceeding from evil; and this w some measure, the case with smuggling; for it not only t the people to exert themselves, but introduced a temporary tal into the country, with which several useful improve were effected, decent houses built, good horses purchased the general system of the district, in many instances, con ably amended. It promoted an intercourse with other parts taught the Gallovideans, that if illicit trade should fail, nev revive, they might, nevertheless, find employment in th more profitable, and much less subject to risk and danger.

The Wild Scot of Galloway was formerly proverbial. biting a country supposed by people at a distance to be l and inaccessible, he was in a great measure secluded fro world; but the case is now changed, and a free intercours the kingdom at large, is fast abolishing provincial distinctio

Much, however, remains to be effected before this cou tain those beneficial alterations which it still requires, and a that value and importance which it might claim on account natural and local advantages.

As Port-Patrick is situated in this county, from and to packets and other vessels regularly pass to and from Dona in Ireland, Irish people are arriving amongst us continually. means we are never scarce of labourers, though the dissolu mmoral manners of these people are apt to render us jeal distrustful of srangers. It is not to be supposed that peo

the best description come over to us, though still we occasionally discover honesty in Irishmen. These observations only apply to the lower ranks; for the better informed people of Ireland are well disposed and amiable.

The Irish labourers, however, are by no means proficients in every kind of farm-work; for, at home, the pick, spade, and shovel, are the implements they chiefly employ. Their crofts, which are there called farms, occupy so large a proportion of the country, that examples of decent well managed farms are rather rare to be met with. Some of the young men, however, who come over to us, when they happen to enter into the employment of judicious husbandmen, become, with perseverance, expert and useful, even in managing horses, and supply the place of our own natives, who, from a spirit of independence and adventure, betake themselves to employments and professions which they esteem superior to the cultivation of the soil.

In obtaining the favour of our young women, too, the Irish are particularly successful; and though that favour is sometimes too hastily conferred, yet, upon the whole, these connexions are useful to the country, seeing, but for Irishmen, many of our women would, of necessity, live and die unmarried, which could be reckoned nothing less than a serious national evil. Thus our lower ranks are a mixed race; and it must be confessed they do not yet exhibit that correctness of morals, persevering industry, and proficiency of duty, which eminently distinguish the same important class of society in some other more improved districts.

From farm-servants I might naturally proceed to describe their masters, a class of people too long neglected by their superiors, and by your pretended men of the world; though at same time a class which constitutes, perhaps, the most essential link in that chain which connects the various orders of society in a prosperous and well regulated state. Here allow me to make a digression.

In your second volume, page 12, a correspondent in Ayrshire, makes the following observation. "The writer of this paper has often discovered, from observation and experience, that the common farmers in the west of Scotland, are generally unacquainted with theoretical knowledge of farming; and from hard labour, straitened circumstances, and contracted prejudices, they only move and perform as they are impelled, like a machine or implement of husbandry."

How far this degrading picture of the west country farmers may be applicable to those of Ayrshire, I will not pretend to determine. I am disposed to think the remark harsh, and the description overstrained; but I shall go backward to the 287th page of your first volume, and quote a very opposite description of

of the farmers of Fifeshire, taken from the agricultural survey of that county.

"From the progressive improvements in the science and practice of agriculture, which have been going forward during the last 20 or 30 years, the condition and circumstances of the farmers have experienced gradual alteration for the better. And their growing affluence, cooperating with the general progress of luxury and refinement through the nation, have had a very visible effect upon their manners and habits of life. Formerly, it was customary for the farmers to subject themselves to every kind of drudgery and hard labour, undergoing the same toil, and often eating at the same table with their servants. And in some instances this may be the case still, especially where their farms are small, their circumstances narrow, their rents high, and, consequently, cannot afford to exempt the master from personal labour. But many of the farmers now occupy a more respectable and important station. Their chief business is to superintend. The operative and servile part is committed to others; but the master's presence and direction are every where to conduct and forward the various necessary operations, in every department, and in their proper season. These requisite attentions, together with the business of the counting-room, and his attendance on markets, for the disposal of his grain and cattle, a province which he usually reserves to himself, will afford little time for relaxation or idleness, and are surely much more conducive to his interest than holding the plough, thrashing the grain, or filling and driving his own dung cart.

"The alteration in their style and manner of living is equally remarkable. Their houses, in general, are decently and substantially furnished, and the apartments so arranged, and the general economy of the house so regulated, as to produce a more marked distinction between master and servants, and to put an end to that indiscriminate intercourse, in respect of sitting and eating, which was common in former times. Though many of them continue to be supplied with necessary maintenance from the produce of their farms, and to be clothed with their own manufactures, there are few who do not indulge more or less in the luxuries of life. Butcher meat is much commoner now than formerly; and their Sunday's dress at least is furnished from the shop."

In a general sense, neither of these descriptions will strictly apply to the farmers of Wigtonshire. They may be said to hold a sort of intermediate station, though the above sketches are descriptive of several individual instances.

From what has been said, it may be safely inferred that, the

lately

lately, the tenantry of this district were poor and oppressed; and it is not long since the whole tenantry of Scotland were in a similar condition: but here our progress did not commence so soon, nor has it been equally rapid as that of more favoured districts. At this very time, however, a race of farmers are making their appearance in the country, who have refused to be shackled by the trammels of prejudice and ignorance which enslaved their fathers, and display an anxiety to adopt a system better calculated for their own comfort and advantage. To support and encourage these, ought to be the chief object of proprietors; and some of them have shewn that they are sensible of the expediency of doing so; but the great error generally committed, is that of adopting the plan which gives the greatest immediate rent, without subjecting them to any part of the expense they can possibly avoid of substantial and costly improvements. The reluctance exhibited on this head is at present the great cause of the improvement of the country being retarded; for without commodious farm-buildings, and sufficient fences and enclosures, it is absurdity to expect a decent and thriving tenantry; and it is only by such that judicious husbandry will be executed.

In districts where capital is by no means abundant, and where an active skilful tenant can seldom be procured with a capital equal to a considerable undertaking, it is exceedingly obvious, that unless the proprietor lend a helping hand, improvements must either go on very slowly, or not at all. When on this subject, I cannot help feeling anxious that proprietors, who are so very sparing of their encouragement, would be prevailed on attentively to peruse the prize essays in your 26th Number, upon the introduction of improvements into the Highlands; for many of the solid arguments therein adduced apply forcibly to the present state of this very county. Were the country occupied by enterprising tenants, who possessed sufficient capital, there would be less necessity for advances upon the part of proprietors; for tenants could then accomplish the desireable work with less of their landlord's assistance. If the speculation afford a proper interest for capital employed, and at same time defray the expense of management, including a premium for the risk, it may be as good for the tenant to employ it as not; and he makes his calculations accordingly.

This parsimony on the part of proprietors, like avarice in general, frustrates its own purposes; for the improvement of their estates, in place of going briskly forward, languishes under the puny efforts of men who are destitute of the means and qualifications of pushing forward with vigour and judgment. Their

time is often occupied, more or less, for years, in the erectio temporary hovels, in place of substantial and commodious fa buildings, which ought either solely to be erected at the la lord's expense, or such allowances made by him as would ef tually enable the tenant to accomplish this most necessary un taking at his very outset. Thus, his means would not be di pated and his time sacrificed in constructing half useless hut the disgrace of the country, and the ruin of his own interest.

Perhaps the most amusing paper that has yet appeared in y Magazine, is that which opens your 20th Number, viz. vol Fifth, entituled, 'Comparative view of Farmers fifty years and at the present day,' &c.

Here, in treating of the farmers of East Lothian, a dis where capital is abundant, and good management almost uni sal, page 399, the shrewd and humorous writer observes,—' farm-houses are neat and clean; some of them handsome bo elegantly furnished. Unquestionably, the best farm-house the county have been built by tenants at their own expense, the spirit of proprietors, though, perhaps, indeed, with n taste than prudence.

'The hinds' houses and cottages have shared in the ger improvement. Instead of abominable, stinking, nasty ho which they were in the beginning of my time, without a chim and a bit of sieve and yolk of glass, to admit the fresh air, the light by day, and an old bonnet stuffed with straw to them out, they are now pleasant cheerful habitations, with ment windows of a proper size.

'The stables, Good G—! how often have I been alar and frightened out of my sleep by the fighting and screamin a dozen of horses standing loose in the same undivided st and the responses of the courser thundering in his travise i byre beyond the partition! I sicken at the recollection o byre, and turn from it with disgust.

'The economy of their families and their modes of livin changed greatly for the better. Farmers here have been on this side of that sorry mess on which the poor husban subsists in many other counties, and that ham and egg di and rarely a fowl, on which he regales a friend. Their la are regularly and well supplied.'

The intelligent communication from which this quotati made, appears more adapted for amusement than utility, an eives an admirable answer in the following Number, viz. vo Sixth, p. 57. Amongst the concluding inferences of the fo paper, farmers are stated as 'the most thriving class of so and those of East Lothian the most thriving of that class;'

which it is judiciously observed by the respondent, that if this is really the case, another 'legitimate inference is, that land, notwithstanding the high value of labour, and increased and increasing amount of public burdens, is still under-rented.'

The respondent goes on to state, that such representations may be used by many in a mischievous way. 'Landed proprietors may view the ground as under-rented, therefore attempt to screw up their demands to a pitch that may ruin cultivators altogether, whilst the purchasers of farm-produce may be led to infer that its articles are too high, and that prices ought to be diminished.'

I am aware that frequent quotations are apt to tire the reader, but as all knowledge is founded on comparison, and as a little industry may now find out many appropriate passages among your former publications, I choose not to become a plagiarist, but avowedly and honestly to produce the arguments and illustrations of others, who appear so well qualified to elucidate the rural economy of the times.

That large farms are most beneficial, both to the individuals directly interested, and to the public, is now a fact, proved beyond a single remaining doubt. Upon this point, your past Numbers contain many forcible statements, and unanswerable arguments. Besides, in the districts best cultivated, experience has fairly and undeniably determined the question. Yet the size of farms ought still to be regulated by the extent of capital to be employed by the farmer, and the nature and extent of encouragement given by the proprietor. In Wigtonshire, where capital is scarce, farmers perhaps ought not to venture upon so extensive a farm as would be most advantageous under different circumstances; and, for the same reason, proprietors who are in earnest in wishing to improve their estates, ought to assist the exertions of the farmer, and endeavour to render his situation comfortable.

That mutual jealousy of parties which we have too frequently witnessed, should be forgot for ever, and succeeded by the liberal motives of mutual advantage. I again resort to another quotation, illustrative of these important considerations. In the answer to the Comparative View above mentioned, the following excellent remarks are made.

'In former times, say 40 or 50 years ago, farming in East-Lothian was generally carried on upon a small scale. The size of farms rarely exceeded 200 acres, and these were generally laboured by eight or twelve horses, yoked in two or three ploughs. The implements of husbandry then used, were not numerous, and of a plain and simple construction, cheaply purchased in the

first instance, and easily repaired afterwards. As the profits f farming ought to be, and generally are, proportionable to the tent of capital stock employed, the cultivators of former ti neither received, nor did they expect, a great return from t respective undertakings. They lived in a confined and contra sphere, joined little in society, and seldom stepped beyond th mits of their several possessions. Their outlays were not gr but their incomes were proportionally small.

'Some of the causes why farmers, at the present day, are titled to greater profits than their predecessors, are the foll ing.

'The capital stock necessary for carrying on improved husb ry, as already said, is tripled in some cases, and quadruple others, which is of itself a good cause; but a better one may be found in the increased size of farms, a practice which ha late extensively taken place in this district. This increased has occasioned capital stocks to be put into action, the very i rest of which would have enabled the owners to live comforta even had they bound up their talents in a napkin. Are not s people entitled to every comfort that life can afford? And l they not a valid claim to the possession of good houses, stored larders, and, in short, to every thing enjoyed by the r chant and manufacturer? Surely they have; and those would, either directly or indirectly, attempt to limit their c forts, or to deprive them of their stock, are neither friend private right, nor to the improvement of the country. If fa ing, whatever circumstances occasion such a revolution, is duced to a condition which deprives the owner of a suitable compense, capital stock will run into other channels; and provements, from the inability of the occupiers, will cease t undertaken, far less to be successfully executed.

'If we turn our eyes over the district, and contemplate w has been done of late years towards its improvement, few do will remain as to the advantages derived from capitalists emb ing in rural undertakings. Such may be considered as having ceived a liberal education—as free from prejudice, the bane of provement—as disposed to introduce new practices, and enjo the fullest opportunites of acquiring knowledge in every branc ural art. Possessed of sufficient stock, they are able to go thro with every practicable plan; and even should such not altog succeed, material injury will not be sustained by them from a ral failure. When persons of this description embark in undertakings, proprietors of land have cause to rejoice. houses are built—enclosures reared—waste land cultivated, asses drained, and meliorations of every kind executed,

to the benefit of the property in all time coming, but especially when the lease, under which they are executed, arrives at a conclusion.' Respecting what is said of the improvement of farm houses, it is further observed. 'How can small or poor tenants ornament and improve extensively, when such things are inconsistent with their state and circumstances? According to the rate of modern rents, a small tenant can do little more than procure subsistence for himself and family, therefore is entirely incapable of executing substantial improvements. To expect that he would build an elegant house, would be highly unreasonable; and yet instances are not unfrequent of tenants of a different description, upon leases not exceeding 21 years, having expended 400l. or 500l. in erecting a house, which is neither more nor less than paying a rent of forty pounds, or upwards, for family accommodation.'

As these passages are so very appropriate, I hope I shall not be blamed by any candid reader for copying them so much at length. I know they are the observations of men who are well qualified to elucidate such subjects; and, by perusing them, the good people of Wigtonshire may form some judgement how far their district is behind in opulence and improved husbandry, when compared with one of our pattern counties. It may be naturally inquired, whence arose this great superiority of capital amongst the cultivators of East-Lothian?

An East-Lothian man will best answer the question; but I presume, generally, that it has arisen from the more early introduction of improvements—the more liberal system of connexion betwixt landlord and tenant—the prosperity of the times, and the great and various local advantages which East-Lothian possesses.

If in Wigtonshire we are nearly half a century behind, we must account for it in the more recent introduction of improvements—the comparative remoteness of our situation—the want of spirit amongst our landlords, and the barbarous remains of the feudal system, which are not wholly obliterated, even in the present day.

The size of farms in Wigtonshire is various. It may be stated from 400 acres of arable land, down to 50. With me, it is a favourite maxim, that a small farm, well managed, is more beneficial, both for the parties and the public, than a large farm ill managed. Nevertheless, my sentiments are, what I have already expressed upon this subject in general. Here we frequently observe, that the extensive farmer is the most indolent, even when possessed of capital sufficient for what ought to answer his purpose. But this seems to arise from his early habits of life,

which have misled his judgement, and confirmed his p
dices.

It is therefore hoped that such perversity and slothfulnes
descend to the grave with the persons who possess these inju
qualities, and that they will not again rise to interrupt the sal
progress of improvement.

Where industry and capital are to be found united in the
individual, proprietors are to blame in not making him an o
of selection. His premises should be in proportion to his ju
ment, capital and activity, and should increase as these incr
Thus a respectable tenantry would in time be obtained, an
smaller farms would gradually be incorporated with the la
People destitute of capital and agricultural knowledge, sh
gradually be removed, in order to make way for a more usef
of men, not by any oppressive or severe means, but by g
and progressive steps.

This subject is entitled to the most serious considerati
proprietors; for a proper selection of tenants, and a due pr
tion of encouragement given to them, would more effect
promote the interests of landlords, than all the silly shifts a
varicious plans, which they too frequently and too succes
put in practice to increase their rents.

It must be admitted, that rents have increased far beyon
most sanguine calculations; and when they are to arrive at
ultimate stretch, or highest pitch, is at present wholly prob
tical.

Avarice is one of those depraved qualities of the human
which knows no limits; and whilst there is a shadow of po
lity that land *may* pay, tenants, if they have any capital remai
will be ready to embark in new speculations; but there is ce
ly a danger more than imaginary, to be apprehended, that if
continue to advance, whilst the price of labour, public bur
and the value of wood and iron, &c. continue to advanc
similar proportion, farmers will be deprived of whatever c
they may have accumulated, and fall back into their former
dition of poverty and wretchedness.

Something similar to this is already said to have happer
Scotland, upon the accession of James the VIth to the thro
England, 'which was in a great measure owing to the incr
luxury of the landed interest requiring an augmentation of

Similar causes will generally produce similar effects, an
is nothing improbable in the supposition that these causes
gain operate.

In the highly instructive compilation made by the Rev
Dickson upon the agriculture of the ancients, a forced

of rents is stated to have been actively instrumental in occasioning the decline of agriculture amongst the Romans.

It is there said, that 'the proprietors of land had crept within the walls of the city, and having abandoned the heck and the plough, choosed rather to employ themselves in the theatre and circus, than in the cornfields and vineyards. Or, perhaps, in want of money to answer the demands of luxury, raised all they could by oppression, without regard to futurity.' Again, the same respectable author thus expresses himself. 'While farmers are in an independent and flourishing condition, it may be expected that real improvements will be further extended; but when rents are raised to such a height as to distress and discourage the farmer; when landholders, in consequence of this, farm large tracts of land themselves, then Britain will teach posterity, as the Roman state teaches the present age, this important lesson, *That agriculture declines as well as other arts, and that this must happen whenever it falls into the hands of persons who, either from their education, cannot acquire a proper knowledge of it, or from their station, cannot give proper attention to it. That, in consequence of this, the price of provisions must rise, and continue high, till such time as the decline of trade and manufactures, and the decrease of riches, reduce the demand so low, as to be fully answered by the scanty crops produced.*'

To let a farm to a poor and ignorant man, is to bring him into a situation of complete slavery during the currency of his lease. It were better for him and the public, that he should at once become a labourer in the employment of other people; he would then enjoy more real comfort and independence.

It has been one of the misfortunes of this county, that farmers have not, till of late, received what may be called a decent education. Another evil has also been prevalent, and landlords should use their influence to prevent it. This is, that farmers of very limited knowledge and capital, have frequently committed the error of bringing up several of their sons to their own profession.

An abusive idea has prevailed, that it was beneficial for a farmer to have a family able and willing to work his farm; and it has been supposed he thereby saved, in a great measure, the wages paid by others to labourers and farm servants.

Such doctrine is very well adapted for America, or any new settled country, where the wages of labour is intolerably high, population extremely thin, and circulating capital exceedingly small. It becomes then a matter of necessity, and a man's wealth essentially consists in the number of his family. But in a country fully peopled, where young men have the choice of so

ıy professions, if their parents intend that they should ev
: to any thing like independence and respectability in th
rld, they cannot more effectually prevent the accomplishmer
their wishes, than by keeping their sons drudging by thre
d fours at home.

What is the consequence? The labour they perform is ofte
either so regular nor so productive as that of well trained servant
hey possess a false spirit of independence, and are destitute c
he means to support it. Little progress is made in knowledg
and refinement; and the plan is productive of family dissension
They lead the insipid lives of expectants, until the best of the
days are past; and, besides all other ill consequences, the stat
is deprived of the more useful services they might perform i
other professions.

The capital required to settle a farmer comfortably, is no
become so considerable, that many farmers in this quarter shoul
not think of bringing up more than one son to the profession
and but a small proportion should think of more than two.

The young farmer should always receive a decent, and, eve
if practicable, a liberal education. To be a drudge, is not t
be a farmer—I hate all such narrow sentiments. He should b
made acquainted more or less with science and the world;—
repeat, that a farmer should not be a slave.

We now see young men intended for trade and manufactur
finish their education in the capital; and to give the farm
the same advantages, would be to confer additional respectabi
upon the profession, placing him more upon a level with
better informed orders of society, to which he certainly h
valid claim; but in times past, the boy of spirit and educa
has gone away into another profession; and agriculture,
the first of all arts, has been too frequently left in the han
the vulgar.

The idea, then, so long and so unhappily entertained
tenant working his farm with his own family, cannot
much or too quickly exploded. It is productive of real
tune to families, and loss to the state.

The terms and conditions upon which farms are let
county, are often prejudicial to good husbandry. The
was, I believe, pretty general throughout Scotland, viz
outfield land should give three crops, and then rest
This useless system is now falling fast into desuetude
ther system is coming into practice, more consistent w
of good husbandry.

Oats are still the general crop; but wheat, bear,
also raised in considerable perfection. Drilled

be found in several farms, and the growth of turnips is extended, but by no means so universal as could be wished. Summer-fallow is also pretty common, and fields are sown out in clean and good condition. Ryegrass, clover, and improved pastures, are to be seen in many directions; but still, though we are not without many instances, individually, of good management, our general practices are defective.

Proprietors sometimes show themselves over anxious in enforcing the observance of restrictions; which injure the tenant, without benefiting themselves.

In the paper to which I have alluded in my outset, the following remark is to be found, and I confess that I am disposed to subscribe to the sense and meaning it conveys. 'Though restrictive clauses in leases, which fetter the hands of tenants, and prevent them from cultivating the ground to the best advantage, cannot be too much reprobated in an advanced and enlightened state of agriculture, yet when tenants are ignorant, and comparatively poor, it is problematical, if it is not wise and prudent, both for proprietors and tenants, to bind them down for a time to follow a certain plan.'

When a farmer, however, understands his own interest, such restrictions are in a great measure unnecessary, and sometimes prove injurious. This point has been amply and unanswerably discussed in various Numbers of your Magazine, from one of which, Vol. II. p. 200, I shall copy a single passage.

'Perhaps a few protecting clauses are necessary, during the last four years, so as the farm may not be thrown out of shape: for a longer time they are altogether unnecessary,—serving only to fetter the tenant, without benefiting the proprietor; the truth of which may be ascertained by an appeal to the condition of every district where discretionary management is permitted.'

Much of the soil of Wigtonshire being of a light quality, requires to be frequently laid out into grass. Upon farms, all, or nearly all, arable, the proportion has usually been one third under white crop, and two thirds in pasture, hay, green crop and fallow. Experience has shown that these are good proportions; but as proprietors and their advisers are apt sometimes to overrate their own sagacity, some of them have been pretending that the proportion under white crop should be limited to a fourth instead of a third, which I am disposed to believe can answer no good purpose as a general regulation on any soil.

Nothing is more disgraceful in this district than the continuance of *baillie-work*, as it is called, or predial services. These are still taken in kind by several proprietors, who are otherwise tolerable landlords. What can be more applicable to this, than the

the observation of the truly worthy and respectable Mr] ster of Dunnichen, recorded in his own words, Vol. IV.] ' There never was a less successful apostle than I have In a mission of forty years, I cannot boast of one conv still find the tenants of my nearest neighbours, and m friends, cutting down the laird's corn, while their own cr imperiously calling for their sickles.'

A few kane hens, chickens and eggs may be imposed. is something more ridiculous than oppressive in the exa but ploughing and harrowing, cutting and leading of peat above all, shearing, are nothing but the remains of barbaris would be exacted by few good men, whose minds were not l by the feudal notions of their ancestors.

A Mr Webster of Perthshire, was employed under the of Agriculture, to survey the stewartry of Kirkcudbrigl shire of Wigton. His report was published in 1794, ar tainly conveys a low idea of Galloway husbandry. Sin time, however, many beneficial alterations have been ef and individual instances of judicious farming are much mo quent.

Mr Webster seems to have wrote hastily, and without obtained correct information upon all the points he men yet, upon the whole, his Report does not appear to me t deserved the unqualified censure and dislike which I recol have heard expressed against it. This acknowledgement i from a Gallovidean, who endeavours to divest himself of dice, and whose mind has been early impressed with a sacr gard for truth.

This county is usually understood to consist of three sions; these are called the Rinns (or Rhins), the Moors the Machers. In the latter division improvements first menced; and there the soil seems to have been first dives its fertility by excessive cropping. Similar blunders have committed in the Rinns, but perhaps not to the same con tive extent.

The moors seem, for the most part, to be condemned l ture to perpetual sterility, and have, from time immemorial, chiefly stocked with the small black-faced sheep, common ther wild and unfertile tracts. These animals are well ad for the situation; but it is supposed, that, upon several the wool, at least, might be considerably improved.

In the Rinns, an Agricultural or Farmer Society was esta chiefly by the tenantry, in the year 1798; and in the M mother was established, about two years afterwards. S cieties can seldom come up to the expectations of their fr

yet they are frequently productive of good, particularly in exciting a spirit of inquiry and emulation among the tenantry. In this respect, the societies mentioned have been actively instrumental. They have also instituted ploughing matches, which have been found exceedingly useful in the district. They have at present a market in contemplation at the town of Newton-stewart, for sheep and wool; and they have already established markets for black cattle and horses. Upon the whole, they have perhaps done, and are doing, all that is practicable, considering the partial support obtained from proprietors.

Mr Webster mentions, that in consequence of the dissolution of the Agricultural Society once established at Dumfries, and comprehending the noblemen and gentlemen of Galloway and Dumfries-shire, together with the causes which produced that dissolution, the agriculture of the country declined, and there was afterwards a visible falling off in the breed of cattle.

I have had no opportunity, enabling me either to acquiesce in, or contradict this statement; but I am now happy to observe, that agriculture in this county has of late made considerable advances, notwithstanding the many obstacles with which it has had to contend; and, that the breed of cattle is improving, is beyond all doubt.

The Galloway cattle have been long famous. They are well proportioned and handsome, and excellently adapted for the keeping and the climate. They are always in great demand at the English market, and thither they are mostly sent. Indeed, breeding and grazing of cattle may be called the chief object of Wigtonshire farming, and tillage reckoned as subservient to that object.

Though cattle do not pay by any means equal to the returns made by sheep in Northumberland, Berwickshire, &c.; yet it is highly questionable how far it would answer a good purpose to introduce an improved breed of sheep extensively in this district. The great distance from market would render their disposal precarious and critical. Besides, from various trials made of the New Leicester breed, upon a small scale, the lambs seem to be scarcely able to stand our climate in the spring. Cheviots have been some time introduced, and seem to succeed upon any thing of decent sheep walks. How far they might answer to supplant the native breed of the moors, is rather uncertain. A few Spanish have also been tried some time ago; but with their success I am unacquainted.

Turnips are above all things useful to young cattle; but as they must be drawn off the land, the ground does not receive that rich improvement obtained by feeding off with sheep.

Indeed, the succeeding crop after turnips is often very precarious with us; and this has cooled several farmers from an extensive cultivation of this valuable root. Errors I have seen in management, which no doubt led to this failure; such as sowing turnips on improper soils, poaching in winter, and ill-timed or defective preparation in spring; yet, upon the whole, our crops are generally superior, after potatoes, to what they are after turnips, though some few individuals obstinately contend, that potatoes are more injurious to the soil; and even a proprietor or two have gone the length of prescribing limits to the cultivation of potatoes upon their estates; a restriction which I conceive altogether unnecessary.

Various crosses have been attempted, by different individuals with the Galloway cattle and other breeds. It is now difficult to say how far these crosses have proved advantageous, the progeny being so much blended with the native and original breed of the country; but the best judges seem to be of opinion, that further crossing would be no improvement. A very considerable proportion of the cattle of this county, at present, is abused, in place of being improved, by crossing, particularly with the Irish and Ayrshire, or Kylo breeds.

The Earl of Galloway, whose exertions in practical farming are very extensive and highly meritorious, has for some time past kept a stock of seventy Galloway cows, of the most approved description; and though he formerly practised crossing, I understand it is now avoided; the most judicious dealers giving a decided preference to the genuine Galloway stock.

Dairies have been lately introduced amongst us, chiefly by some farmers from Ayrshire; and, from what is told of their profits they must exceed what can be made by breeding. The cows used for the dairy are brought mostly from Ayrshire, and few of the calves are reared. In every situation, however, dairies will not succeed; and the people of Galloway are not only unacquainted with this species of management, but also extremely averse to the idea of giving up their favourite native stock. The Galloway cows have never been reckoned great milkers; but, in this respect, proper attention has not yet been used in selecting the breeders and keeping cows; a good looking animal having been invariably preferred to a good milker, if the latter was otherwise inferior; but, I apprehend, the different qualities might, with perseverance, be found united in the same individual animal; and indeed, by some, it has been nearly effected. One instance I will give directly in point; and this is, that the handsomest cow among Lord Galloway's seventy is, if not the very best, at least among the best, milkers of the whole number.

The next requisite improvement is, to teach the calves to drink, or to be hand-fed, in place of the slovenly and prejudicial mode of suckling them. When I mention this, I know that the general opinion of the farmers of this county is against me; but I also know that their opinion is erroneous, and founded on habit and prejudice. They strenuously argue, that the young cattle are not equally good when fed as when suckled; and, with slovenly management and stinted keeping, I readily believe they are right; but, when plentiful keeping and regular attention is bestowed, I can speak from the conviction arising both from experience and observation, that as good cattle may be reared the one way as the other.

Besides, the advantages of feeding are great and various. The cows are at their ease, and continue longer in milk. The calves are turned off at pleasure; and, by these means, a combination may be formed of the breeding and dairy systems. Upon this subject, I am disposed to use more arguments; but I have already run to a greater length than I intended at my outset.

Before concluding, I shall say a few words upon proprietors. Much of what I have already said is applicable to many districts besides Wigtonshire, and partly applicable to agriculture in general; for your miscellany is favourable to latitude of observation; so, what I shall now say is applicable to proprietors of land in general, and not to be understood as confined to those of a single district.

The independent proprietor occupies a most enviable situation. Born, for the most part, to the possession of honour and fortune, he receives a liberal and elegant education, entitling him to the respect of the highest talents and learning of his country, and the best enjoyments of a gentleman. The value of his fortune is rapidly enhanced by the internal prosperity of the state; and the money he chooses to expend upon ornamenting and improving his property, is not laid out with the uncertainty of speculation in commerce, but makes sure and ample returns. He is the natural guardian of the rights of the people, and the protector of the injured and the helpless.

If we see these high advantages so frequently abused, we cannot avoid severely blaming the man who disregards and abuses them. When we see him actuated by jealousy, and a spirit of oppression to his unoffending inferiors and dependants, we regard him as a fool or a tyrant, who is utterly undeserving of the dignified station he holds. But I am never disposed to reprobate, in general language, any particular class of men; for, in every class, good and bad are to be found. I endeavour to account for the depravity of individuals by the common corruption of human nature,

nature, to which some appear as rising superior; so, a
proprietors of land, as well as amongst other classes, the
able character of the individual is distinguished by the a
tion of the good and the wise. 'One will smile upon th
and lead rural industry by the hand; whilst another casts a
upon the honest heart by oppression, and clips the wings of
ing genius.'

These remarks have been collected and arranged with litt
no regard to the late important roup of Baldoon estate, and o
farms belonging to the Earl of Galloway. I understand that
chief particulars respecting that roup have been already trans
ted to you.

We may speedily expect to see improvements going on
these lands with a greater degree of celerity, and to a greate
tent than we have ever yet witnessed within this county.
conditions of management, and the allowances to be made
houses and fences, are, upon the whole, pretty liberal; but
leases should have been at least two years longer than nine
considering the very disordered state of the farms at entry,
the magnitude of the improvements required.

Were it not that I have already exceeded the limits usuall
lowed for a single paper, I might proceed to particularize
instances of judicious management practised by our most spi
proprietors and tenants; but upon this I cannot think myse
liberty to enter at present. Were I to perceive that this com
nication is well received, and obtains approbation, I might a
wards presume upon another, still further illustrative of the
economy and agricultural interests of Wigtonshire, for whi
apprehend, materials sufficient might be found. But, in
mean time, I shall remain diffident of my success; and, w
continuance of respect, am yours, &c.

Wigtonshire, Sept. 1806. AGRICOLA JUNIO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

*On the Management of Thin Soils incumbent upon a Re
Bottom.*

SIR,

IT has often appeared to me, that though your periodica
contains many excellent hints and observations respecti
management of arable land, yet, the general bias and inc
such being disposed for good soils, or those calculated
ying wheat, that something was required wherein the be

tice on thin clay soils, and those mixed with peat earth, might be satisfactorily elucidated. I do not take it upon me to say, that what I am now going to state will expressly answer that purpose; but, being founded upon practice gathered during a period of no shorter duration than twenty-five years, cannot be altogether unworthy of the attention of those who are so circumstanced as to need information with regard to the most proper and profitable management which ought to be exercised.

The soils under consideration, namely, thin clay and peat earth, have a great stomach for dung, while, unhappily, they yield but a small quantity of materials from which that article can be manufactured. It is therefore indispensably necessary, that such soils should be tenderly cropped, and never exhausted; but that, on the contrary, by the aid of pasture grass, they should be kept in a fresh and recruiting state, so as they may be enabled to carry corn crops when broke up, and to go on with less dung than would be called for were they more deteriorated and run out. I will not assert that these soils, when in grass, will make much compensation to the occupier, after the first year's crop is consumed; but from repeated experience I maintain, that they cannot be successfully cropped, without the assistance of that powerful auxiliary.

Supposing that a farm contains 300 acres of such land as I have mentioned, the first inquiry is, how a farm of that description is to be managed with advantage to the occupier. Laying it down as a primary principle, that grass is the basis on which good management is to be erected, I venture to point out the following rotation, as best calculated to promote the improvement of the soil, consequently the interest of the occupier.

1st Year—Summer fallow, on which dung is to be laid, as far as it can be procured.

2d Year—Wheat, where the fallow was dunged; and, where it was not dunged, either rye or oats to be sown, according to the nature of the soil. If the surface is soft, rye will be found the most beneficial crop; where otherwise, oats deserve to be preferred. Grass seeds to be sown with the crop after fallow, whatever grain is put upon it.

3d Year—Grass, a small part thereof to be cut, and the remainder pastured.

4th Year—Pasture grass.

5th Year—Pasture grass.

6th Year—Broke up for oats, and the land to be fallowed in the seventh year; with which the second rotation commences.

In this way, a farm of 300 acres would be cropped with 50 acres of wheat, rye, or oats, after summer fallow, and 50 acres

of

of oats after three year old grass, while 150 acres would remain in grass, and 50 be devoted annually to summer fallow. The portion of summer fallow which remained without dung in the first rotation, to receive manure when the second course came round.

It is now necessary to notice what number of men and horses would be required to execute the labour of a farm so circumstanced. In my humble opinion, three men and six horses are sufficient for plough work. Though at first sight this small number may surprise some people, yet, upon a recollection of the circumstances under which a farm of this nature is placed, such surprise will vanish. The winter work may easily be undertaken with the strength mentioned, seeing that there are only 100 acres to get one furrow; and as for the summer fallow, as there is no seed-work after the oats are deposited in the ground, the whole may be cross-ploughed before the term of Whitsunday arrives. Such soils are generally easily fallowed, seldom requiring more than five furrows, and never above six; besides, as fallow comes often round, the longer that the rotation is practised, the easier will it be executed.

By a rotation of this nature, seven hundred bolls of grain, or thereby, may be raised each year upon an average, while the yearly consumption at home would be about three hundred, leaving a disposeable produce of four hundred bolls. It is evident that a farm of this soil, though consisting of 300 acres, is unable to pay a high rent, because the large portion in grass neither can carry forward much stock, nor is it capable of feeding such to perfection. Perhaps the breeding and feeding of lambs on such soils is the most advantageous mode of stocking them, because it is only in the first part of the season, say June and July, that grass is to be obtained from them, at the latter end of which period the lambs are sold, leaving maintenance for their mothers; but in this way, it is only the lamb and the fleece of the ewe, that can be calculated as profit; the carcase of the latter being seldom worth more than the price at which she was purchased. Two ewes per acre are a sufficient stock in general cases, upon the soils alluded to. Often that number is too many.

I have thus submitted to the consideration of your readers my opinion on the best way of cultivating and managing thin clay and peat earth soils incumbent on a retentive bottom; which you may trust is the result of long and attentive experience. When I mention peat earth soils, I mean, where peat earth forms only a part of the surface, which is the case with a vast number of upland fields over all Scotland. But where the surface is entirely composed of peat earth, the management pointed out is not applicable. Indeed,

deed, fields of that deſcription are ſcarcely worth cropping with grain under the preſent expenſive rate of labour, unleſs in particular ſituations where alluvial earth is at hand for making compoſts, or when clay can be obtained to give them a body or ſubſtance. But in each of theſe caſes, improvement is executed at ſuch an expenſe, that none but expert cultivators ſhould attempt it. The outlay is great in the firſt inſtance, while the return is uncertain and precarious; and, at all events, the rent to be paid by the cultivator ought to be very ſmall, otherwiſe the benefit to be reaped, after every exertion, may be undeſerving of regard.

It was omitted to mention, that an application of calcareous matter may be highly beneficial to the ſoils firſt mentioned, either in the firſt or ſecond courſe of ſummer-fallow, provided ſuch has not been already liberally adminiſtered and ſucceſsfully cropped out. Forty barley bolls (240 buſhels) of lime ſhells to every acre of ſuch ſoils, will make a much ſmaller quantity of dung capable of impregnating them, than if this aid were withheld. At the ſame time, the graſs that ſucceeds will be of a more feeding quality, and the ground capable of yielding richer crops when again broke up. Though theſe benefits will be felt where the ſoil has not been previouſly wrought by lime, yet the contrary will generally follow where it has been drubbed and exhauſted by the application of that article. In the latter caſe, the expenſe of purchaſing lime is in reality ſo much money loſt to the owner; and in ſome caſes it has been found adverſe to his intereſt, in direct proportion to the quantity applied. I am yours, &c.

RUSTICUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

A SERIES of letters from a young farmer to his father lately fell into my hand, and I take the liberty of furniſhing you with a copy of them, truſting they may in ſome reſpects be amuſing, and perhaps intereſting to your readers. It appears that the young man had been ſent to learn the art of agriculture in its various branches, under an extenſive farmer who reſided in a neighbouring diſtrict; and was employed in the character of a head ſervant, or as one to whom a particular department of work was entruſted. From a young perſon ſo ſituated, you are not to expect a great portion of information, or many important remarks, though I entertain few doubts with regard to the degree of intereſt which may be taken in the details given of the ſeveral articles of farm buſineſs which came under his view. For the ſake of

connexion, I have arranged the numerous letters before me into four classes, each of which is applicable to the business executed at the different seasons of the year; and I eagerly hope that such an arrangement may be useful and advantageous. I have only to add, that the letters were wrote several years ago, and am yours, &c.

PHILO-GEORGICON.

Letters from a Young Farmer to his Father.—Class 1st.

DEAR FATHER,

AGREEABLY to your desire when we parted, I sit down to give you some account of my reception at Barnhill, where I arrived on the second day of my journey. I found Mr Jamieson at home, and was received in a kind and friendly way. He first introduced me to his wife and daughters, and shewed me the apartment which he said was to be mine during my residence with him. You may believe I was a little discomposed by the sight of so many new faces; therefore, Mr Jamieson kindly proposed a walk for an hour or two through the farm for my relief. The farm appears to be very extensive; but on this point I will afterwards speak with more precision. After work hours, I was introduced to each of the principal servants, who were informed as to the object of my coming to this place, and desired to give me every manner of countenance and assistance in their power. Mr Jamieson says I am to have a charge also, but has not communicated the nature of it. I shall write down my observations carefully, and send them as opportunity occurs.—Bell rings for supper.—I find every thing here is conducted in a regular way; and that though all seem to be in a *haste*, yet none are in a *hurry*. I have often heard you illustrate the difference betwixt these two terms, and now believe that I will see it practically exemplified.

February 5.—Mr Jamieson has this day sown a large field with wheat, which field carried turnips last year, and had been regularly ploughed as the turnips were consumed or carried off. He desired me to attend the pickling process, which was carried on early in the morning by the different sowers, under the inspection of the head ploughman, and executed in the following manner. A quantity of stale urine being provided the preceding evening, and several bushels of hot lime shells laid in the house where the process was to be gone about, the wheat was thrown on the floor in small quantities at a time, and sprinkled with the urine out of a garden watering pan. When something like twenty bushels were wetted, the heap was turned over, and carefully sprinkled, after which hot lime was riddled upon it; and the like operation commenced with another heap, till the whole was finished. The sacks were then brought to the door, and the grain taken to the

where it was soon deposited in the earth. Five sowers and thirty harrows were employed. The whole work was completely over before the evening, and grass seeds were sown upon the field previous to the harrows going over it the last time. Three double times of the harrows were given; the first in length or for *breaking in;* the second across, which pulverised the ground sufficiently; and the last in length, as a covering to the grass seeds. It was chiefly white clover and a sprinkling of rye grass, that were used. The field was, lastly, neatly water furrowed, and presents a most husbandman-like appearance. I have been more particular in this description, because wheat, at this season of the year, is a rarity with you; and I don't remember of having seen you sow grass seeds so early. I hinted to Mr Jamieson, that there might be some danger to the seed, from the frosts in March and April; but he answered, that repeated trials had satisfied him that no hurt was to be apprehended. Indeed, experience must be the best guide in this and every practice.

February 10.—Mr Jamieson is very throng at present, being just beginning his pea and bean seed. He lays down, as a positive rule, always to rise from bed at least an hour before day-light, I mean, at this season of the year. By which means, he gets sufficient time to deliver his orders to the several head servants before work hours commence; but his method of doing those things shall be described hereafter.

A few days ago Mr Jamieson shewed me his farm, which, I believe, contains about two thousand acres, apparently of excellent soil; though, at this season of the year, a stranger, especially a novice like me, may fall into great mistakes. It took us four hours on horseback to survey the whole, so you may figure the difference betwixt the extent of business executed here and with you, whose farm may at any time be perambulated before breakfast. He told me, in the course of our ride, that he would, at some leisure hour, give me a sketch of his management. In the mean time he has entered me to business; and you will no doubt wonder that I am capable of a charge so early. Why, then, my business is to oversee the odd men or labourers, that is, the servants not employed at plough or barn-work, or about the live-stock. Mr Jamieson says he will give me some help till better acquainted with the men, and the nature of their work; but that, afterwards, I must look sharp about me, and see his orders faithfully executed. I intend to use my best endeavours, both on account of honour and interest, because, were I to be negligent, I foresee that my removal would be the immediate consequence, which would not only be disgraceful to my character, in the first instance, but eventually detrimental to my future prospects. In a word, I have got ten men to superintend, which,

to be sure, is something like a sergeant's command; and, to keep them tight and tractable, will require all my small stock of prudence and exertion.

The implements belonging to my men have been formally delivered to me with a catalogue of the whole. When *tear* and *wear* occurs, I am directed to mark it down, and produce the broken or disabled implement at the end of each month, when the catalogue will be examined, and deficiencies supplied. These I consider to be excellent measures; and believe that heavy losses, both from pilfering and negligence, are sustained by most of farmers from the want of them.

I shall furnish you with a copy of my catalogue, which, at least, may amuse you.

10 spades.
10 broad shovels.
10 narrow do.
10 picks or mattocks.
A complete set of quarry implements.
10 pair wool scissars.
10 hedge hooks.
6 pair hedge scissars.
10 strong grapes.
10 small do. for spreading dung.
10 forks.
10 scythes.
10 scythe stones.
30 hay rakes.
10 wheel-barrows.
10 hand-barrows.
6 bean drills.
6 turnip do. of different kinds.

Taking care of these articles, and keeping my *corps* of 10 men at work, I am vain enough to consider as sufficient for me; at least, I am almost certain that one half of the farmers in the island have not so much to look after.

We must now enter to work. The day after I got my commission, I went to the office with the other head servants. There each got his orders, which Mr Jamieson, to prevent mistakes, delivers always in writing. Mine were as follows, and I send it to you as a sample.

Orders for George Campbell, Feb. 10.—John Jackson, Peter Simpson, and James Hay, go to the quarry; William Hay, and Thomas Kemp, to plash hedge in Brickfield park; Donald MacLean, Alexander Martin, and John Fraser, to turn compost middens; Archibald Kinnear, and James Dods, to scour ditch at the under end of the Cross-gate park.

This order, with a memorandum concerning the work exec ed, Mr Jamieson directed me to deliver to the clerk at nig who then enters it in the books. This you will say is going v regularly to work; but where so much is to be done, the a necessity for method, otherwise confusion would be the sequence.

Our head ploughman tells me, they have sown 20 acre

peas this day, which are all done off and water-furrowed. He says the ground harrowed tolerably well, and left a round clod upon the surface. I understand that beans are to be drilled to-morrow, six of my men being directed to wheel the drill-barrows.

February 16.—Mr Jamieson's business now begins to open upon me. He really manages a great deal of work, and does every thing without noise or confusion. He is indefatigable himself, and takes a great deal of fatigue; but keeping little company, and that only of sober people, he is almost constantly employed one way or other upon his farm; and when he has visitors, his way is so well known, they never trouble him with bad hours. He is an early riser, laying down for a rule, as already mentioned, to have all his orders delivered before the working people attend. His house is well furnished, and abundantly supplied with good victuals of all kinds. There is one table kept for himself and family, another for the head servants, and a third in the kitchen; and a full supply is regularly presented at each.

He sent for me last night into the parlour.—Well, George, said he, how do you like your office? Pretty well, I replied, Sir, providing I fill it to your pleasure. Why, not worse than might be expected from a beginner. Time and attention, I hope, will produce improvement. But sit down. I promised to explain, some day or other, my mode of management, and, having a leisure hour, shall be as good as my word.

This farm contains altogether about two thousand acres; and, when it came into my possession, was divided into eight separate farms; but, as I had long entertained an inclination to try farming on a large scale, I ventured to take the whole, though at the time in miserable order. Indeed, it has always appeared absurd to me, that the occupation of a farmer should, by custom, be restricted to certain bounds, while the merchant or manufacturer is encouraged to extend his trade or business proportionally to the extent of his capital stock. With these views in my head, and a decent sum of money in my pocket, I settled here, and proceeded to realize my former opinions. This house, and all the adjoining offices, were erected by me, the old houses and steadings being widely scattered over the ground, and of little use, except such as were preserved for cottages. You see I am tolerably well provided with accommodation of every kind, both for a great number of servants, and a large stock of bestial, which things are absolutely necessary, if farming is meant to be carried on with comfort and profit. My landlord aided me in the buildings, by furnishing one thousand pounds; but the sums I have expended, at different times, are three times above the amount of the assistance thus obtained; though I don't grudge such expenditure, because I consider every halfpenny of it to be well applied.

It required a considerable time before I got the farm arranged to my mind, much of it being formerly run-rig, and intersected by balks. However, by summer-fallowing to a great extent, and throwing in plenty of clover and rye-grass, I, at last, got the whole into regular breaks of one hundred acres each. Part is enclosed, and a considerable proportion remains open field; but this I don't view as attended with much detriment, where corn is the chief object. The enclosures that I have are good; and this I consider as of more importance than having many of them.

My method of cropping is very simple, and regulated upon this principle, that the earth delights in variety; therefore, I chiefly follow what is called the alternate husbandry. As for a regular rotation, in the strict sense of the term, I never followed any thing of that kind, but limited my mode of cropping to a sequence of white and green crops, without studying particularly what variety of each was to be cultivated; and, abstractedly speaking, to take culmiferous and leguminous crops alternately, I hold to be the *ne plus ultra* of good farming. No doubt this plan at times has been broke through, because seasons and other circumstances have rendered a departure from it necessary; but where it can be adhered to without material inconvenience, I am clear that a departure therefrom should be carefully avoided.

My last year's crop consisted of 250 acres of wheat, whereof 100 acres were after summer fallow, 50 acres after turnips, and 100 acres after beans and peas; of 150 acres of barley, whereof 50 acres were after turnips, and 100 acres after beans and peas; of 300 acres of oats, whereof 100 acres were after clover, cut and used in the stables and straw-yard, and 200 acres after pasture grass; of 200 acres of beans and peas, most of them drilled; 100 acres of clover and ryegrass sown amongst fallow wheat; and 800 acres of pasture grass. These, with 200 acres in summer fallow, turnips and potatoes, comprehended the whole of my farm, and in my humble opinion, made the system so complete as almost to ensure a succession of good crops.

You will attend, that as I sow grass seeds along with the grain that succeeds summer-fallow and turnips, and also with 100 acres of barley, which followed drilled beans, I am enabled to retain the like number of acres each season in grass; because three breaks of grass, one after cut clover, and two after old pasture, are ploughed in each year. This gives a regularity to labour always desireable; and serves, under a parity of circumstances, to keep the whole of my farm in equal and uniform good order. I by no means, however, adhere to the number of acres in each gra condescended upon as forming the crop of last year, becaus have sometimes taken wheat on the clover break, and at oth tim

times have substituted barley for wheat on the breaks which had carried beans and peas. My aim is to have culmiferous and leguminous crops alternately; and this being attained, I am not rigidly studious to preserve the quantities of each already mentioned. If I have 700 acres in white crops, 1200 acres under leguminous crops, and 100 acres in naked summer fallow, I am perfectly satisfied.

I hope that a kind of rough view is given of my farming system; and, at a future time, shall be ready to afford any explanation which you may suppose to be necessary. I never thought farming a mystery, nor do I think that good can arise from keeping any branch of it secret and concealed, as attempted by many of our brethren. My opinion is, that the more generally a knowledge of husbandry is diffused, so much more will the public be benefited; and that the man who has gained wisdom in the school of practical experience, and refuses to impart a share of it to others, acts a part not less inimical to the public good, than he who, having discovered a remedy for a pestilential disease, obstinately keeps the secret to himself, without benefiting society by the discovery.

The above is the substance of Mr Jamieson's conversation. I really think him a sensible man, and, although remarkably quiet, yet, by an active turn and disposition, eminently qualified for the line of life he has chosen. You may be assured that I shall study to cultivate his good will, being certain that the possession thereof will tend much to my advantage, though equally sure that it is not to be gained unless attention to business is punctually bestowed.

I forgot to mention, that the first day I entered to business, Mr Jamieson accompanied me through my several stations, and gave me particular directions how each branch of work was to be executed. He also instructed the men to give absolute obedience to my orders, and to act under me with the like promptitude and discretion as if he were upon the spot himself. I am authorised to dismiss immediately any one who acts unfaithfully, or neglects his duty; but this authority shall be administered with prudence, though with justice to the interest of my worthy employer.

February 28.—I am sending letters very frequently; but were I to do otherwise, one third of what I learn every day could not be communicated. The obligation conferred in sending me here is great indeed; and assuredly, if I am not taught farming in all its branches sufficiently, it is not for lack of opportunities.

It was sta in a former letter, that Mr Jamieson had several head servant to whom his orders were entrusted. I am now [illegible] acquainted with them all, and shall attempt a description [illegible] each, and their respective duties.

The first is the head ploughman. His name is James Elliot. He is a middle-aged man, is a complete ploughman, perfectly capable of teaching an ignorant fellow to manage the plough in the best style, and in short qualified to execute every branch of field work. He has eighteen ploughs under his inspection; seldom works himself, but accompanies the ploughs to the field, and sees every thing properly executed. He feeds the horses, has the charge of all work done by them, and of all the implements which appertain to that department.

The second head servant is Ralph Howard, who is a thorough judge of live stock. He has the charge of the whole sheep and cattle kept on the farm, and attends markets either for buying or selling. He has six herds and feeders below him.

The third head servant is John Fairbairn, who superintends the stacking, thrashing, and dighting of the corn; also the stoning of grass land, weeding the corn fields, gathering quickens, &c. from the fallows, &c. &c. He has four men and five women constantly under his charge, and occasionally a greater number of the latter as may be called for by the work to be executed. Draughts are often made from my *corps* to assist him, especially when the thrashing machine is employed.

The fourth head servant is the clerk, whose work is easiest in one sense, but most fatiguing in another. He writes out the orders,—posts the books,—rides upon business,—receives money,—and pays it away as ordered. Every night he gets reports from the other head servants; and upon Saturday settles accounts for the past week with Mr Jamieson.

The fifth head servant is your humble servant, and the nature of his office is already explained.

You would be surprised, notwithstanding the number of people employed, and the multiplicity of business executed, to se in what order and method every thing goes forward. In fa every headsman may be considered as a separate farmer; w this beneficial difference, that his attention is in a great meas directed only to one object; whereas, in ordinary cases, the tention of a farmer must be displayed upon multifarious ar of business, some of which, of course, stand a chance of neglected. Mr Jamieson insists, in the most pointed way, none of us shall interfere with the business of his neighb even go near each other during work hours, unless when by him. He maintains that these rules are not only nec support good government, but even to preserve unanimity ourselves. I believe he is in the right, and shall walk acc

Elliot is always first up in the morning, having his feed; and rings a bell placed on the top of the gran summons his men to the stables to feed and dress

after which breakfast is taken. In the mean time, he goes to the office, and receives orders for the day, with which he instantly returns, and distributes among his ploughmen. In good weather this is an easy task, because the whole are usually kept together; but, in bad weather, the scene is changed, and a greater division of orders becomes necessary. Howard, after receiving his orders, goes to his herds and turnip-feeders in the byres; Fairbairn to his barns; and me to my old fellows, who assemble in a shade adjoining to the house, where their implements are deposited. Mr Jamieson goes where he pleases, and superintends the whole.

At night, after work is over, we go to the clerk's office, and give in our reports, which are entered in the journal for Mr Jamieson's inspection, who, from these vouchers, and observations made by himself, determines upon the orders for next day. When money is wanted,—as every headsman pays the people employed in his department, we make out an account, which is shown to Mr Jamieson. If he is pleased to order payment, the pencil mark of '*Pay*' is affixed, and we go to the clerk, who takes our receipt at the foot of the account, and delivers the sum wanted. These accounts are kept by the clerk till Saturday evening, when Mr Jamieson takes them off his hand. By attending to these methods of carrying on business, I am bold enough to say, that the affairs of this farm are regularly conducted, and with much less bustle and confusion than on farms not a sixth part so large, where order and precision are neglected. You will be well pleased with these particulars, being a lover of regularity, and a keen friend to systematic arrangement in executing every kind of business.

March 4. Mr Jamieson desired me to take a walk with him this forenoon, which I did with much pleasure. We went to a field where Elliot was drilling beans, his whole eighteen ploughs and six drill barrows being employed; and a noble sight they made. 'Elliot,' says Mr Jamieson, 'have we a prospect of obtaining a good crop here?' 'In my opinion,' replied Elliot, 'we have a fair chance of it; the land is rich and clean; and if the season is not against us, eight or ten bolls per acre may be expected.' 'Pray, Mr Jamieson,' I said, 'how many beans will you sow here?' for I could hardly see to the end of the field. To which he replied, 'There were just one hundred acres in the break, which may require from 130 to 140 bolls of seed.' 'And what time may it take to plough and sow the whole of that quantity?' 'Elliot,' says Mr Jamieson, 'how long have you been here?' 'Why, Sir, two days before this one; and I am tolerably certain that, in three days more, if you allow the whole strength to continue, we shall have the field finished.' As this was nearly an acre per plough per day, I expressed some amaze-

ment at the quantity of work executed; but Elliot said, pair of good horses going with a light furrow, such as sho given to covering beans, were unprofitably employed, if th not turn over an acre per day, at two journeys of four hou a half each. So much for the despatch given to business place.

We went from the bean field to the land intended fo which Mr Jamieson thought to be in good condition for rec the harrow; and added, that the moment his bean seed ver, he would strain every nerve to get his oats deposited ground as speedily as possible. He informed me that his e oats, though often of least bulk, were always more prolifi those later sown, and that a day at this season was of in able value. Here ended our walk; and I went to a detac of my old fellows, employed at turning a compost midde remainder being with Elliot wheeling his bean drills.

Howard tells me, that he has got a few lambs, and e ten or twelve score more, before eight days are over. The I notice, have got a supply of turnips lately on their pa which Mr Jamieson assures me, is absolutely necessary season, if good lambs are to be reared. It is the New Le or Bakewell sort of sheep that are chiefly kept here, and th quiet and docile in disposition, beyond any sheep that hithert come under my observation.

March 20.—Our oat-seed is finished this day; and wher you that three hundred acres have been sown, you will allo no idle bread has been consumed, either by men or hor noticed that thirty-six harrows were employed, and learn Elliot, that above thirty acres were, on an average, finish each day, a good part of it having to get four double tu the harrows. He added, that when grass land is not ver der, he makes it a rule to go over it two times in length, he drives the harrows across; and this is done so as the fu may not be pulled back, and the sward brought into its o position, which hurts the crop exceedingly. I understan about one half of the early varieties are sown, and the oth of the kinds called Angus and Blainslies. I ventured to i at Mr Jamieson which of the sorts were most profitable; s was so good as to inform me, that both had their prop though as the early ones generally yielded the greatest quan grain, he was partial to them; but that as the others produce odder, which was an important object with him, he was sow them in equal proportions; and that, in this way, h rest work was divided, and much hurry and hazard avoide period. This, to be sure, is a matter of importance, a deservedly viewed in that light by so celebrated a husban

Our turnip fed sheep are all gone off; and the field which carried turnips is forthwith to be cleared, and the remainder of the crop brought home, so as the plough may be entered preparatory to the sowing of barley. It seems that the charge of topping, tailing, and building of the turnips, is to be entrusted to me, and of course that my squad is to be employed in these operations. Howard informs me, that about thirty of the turnip cattle are still on hand, and that these, and the stock of ewes, will consume all the turnips that remain; though, he adds, that they are losing their nutritive quality very fast. Mr Jamieson continues to favour me with his approbation; and my fellow servants, particularly Elliot, have shown a steady desire to give me every manner of assistance. In a word, my time here is not only usefully but agreeably spent, and I thank you once more for placing me at such a school.

April 8.—The barley after turnips is at last sown, though the work gave Elliot more trouble than he expected. Owing to a sudden drought, the ground turned up with a *heel*, as he called it; so a cross-ploughing was first given; then, after harrowing it, rollers were applied; and finally an ebb seed furrow; when it was sown with early barley and grass seeds. The field looks well to the eye, being finished in a most husbandman-like style; but upon talking to Elliot concerning it, he shook his head, and said, he seldom saw good barley after turnips, when the land required to be *forced*; and that he will pawn his word that we have better barley upon the break that carried beans last year, which he is forthwith to seed-furrow. He says that he means to sow this field *green*, or after the plough, and not allow it to spire and lose brairding sap. The field to be sure is clean, and perfectly free of quickens; so I dare say the method meant to be taken is a good one. Fairbairn and his women, for several days, have been gathering stones on the break of clover intended for cutting; and my *corps* have digged a number of drains in the adjoining field intended for summer-fallow, into which the stones are deposited. Three carts are employed to drive the stones, which are instantly put into the drains; and while Fairbairn superintends the gathering process, the task of filling in and covering up, is committed to your humble servant. We work five hours in the forenoon, and four in the afternoon, and go merrily forward. I am, &c. &c.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Smearing of Sheep—Another Reply to A. S. on that Subject.

SIR,

IMPRESSED with a desire of correcting mistake, and refuting error, I take the liberty of submitting to you the followi observatio-

observations on an essay on smearing, by A. S., which a
in Number 26th of your Magazine. His remarks, whicl
sultory, I shall endeavour to follow in their order, the
well adapted for a clear and connected state of the matter
in the Northern counties, smearing should not be extensi
lowed, may be owing, I presume, to that improveme
many others at present practised in the Low countries, no
yet found its way thither; or the breed of sheep, whi
the long-wooled sort, being not so much benefited by t
cess, as the Cheviot or short-wooled sheep. It is certain,
that the wool of the Leicester breed is much deteriorated
ing, as it injures materially the manufacture of it. I
parts too, of the north, it is a custom to drive their s
winter, from the high to the low grounds; and such l
many places covered with brushwood, a great proportio
wool is lost, and they think it quite unnecessary to be at
pense of salving, which in this case would only augment
Ticks and cades are different animals. *Ticks* are bred
ground; and, during the spring and early part of the summe
the sheep by getting into the skin, and are more commo
the disease called in this country the *louping ill*, is pr
Cades chiefly harbour in the wool.

Salving completely destroys the latter, and it is not
new wool is springing that they again make their app
The inveterate habit that A. S. ascribes to the stock-fa
the south of Scotland, and to which they have been long
will not be given up while it is founded on undeniable pr
of advantage and interest; when it can be proved otherw
will find no set of men more willing to renounce thei
The virtues of salving are many and great. It is not, h
considered in this country as a preventive for the bra
cept for a few days after the operation; but that it is
cific for the scab, is placed beyond a doubt; and wh
disease makes its appearance in any flock, smearing the
sheep completely prevents it from spreading. That sa
also of great benefit in keeping sheep dry, may be easily i
from the small impression rain makes on any body co
oil in its composition: and, that an addition to the nat
ering of an animal should assist in keeping it warm, c
quire much proof: it also greatly promotes the grow
fines the pile of the wool. If the only use of smearing
orrespondent hints, was the killing of cades, no farmer
nlightened period, could think of being at so much
nen the effect might be produced by a much cheaper pr

A. S. next insinuates, that, when a medicine is alleged
so many maladies, may it not be shrewdly suspected

ficient in none? A conclusion by no means admissible in this case, where the only diseases which he mentions as alleged to be cured, are the scab and braxy, of which I have already spoken. Are there not many medicines equally and more efficacious in the human frame?

Tobacco liquor is an excellent remedy for the scab, and is used for long-wooled sheep at all times, and for the short-wooled in the spring and summer months, when salving would be both prejudicial and unnecessary, for reasons too plain to be overlooked. I have heard that shepherds formerly did tar their clothes to defend themselves from the inclemency of the weather, but cannot vouch for its authenticity. Soon after smearing, the wool growing luxuriantly, pushes up the tar from the skin, and there is of course a coating of clear wool next the animal, which, according to A. S.'s notice of Mr Leslie's theory, may keep the animal warm, while the exterior tarred covering will defend it from the weather. I do not however wish to enter the lists with such a powerful adversary as the celebrated author of the essay on heat; but must content myself with observing, that, while the practice of salving is found by experience to have the beneficial effects already and hereafter to be enumerated, it will not be abandoned for any theory, however specious. Smearing was certainly given up, in a great measure, in the eastern parts of this county, at one time; but, after several years trial, they have all (with one exception or two) returned to their old inveterate habit;—a strong proof of its good effects. To the question, Is the effect of tarring worth the trouble and expense of it? I beg leave to subjoin the following statement as an answer. Six fleeces, properly laid, will in general, throughout a flock, make one stone, while it requires eight unlaid; and the difference in the price of the two will amount at most to 2s. per stone. Supposing, then, that the *laid* wool sold at 36s., and the *unlaid* at 38s., the price, consequently, of one fleece of the laid is 6s., of the unlaid 4s. 9d. The addition of 6d. per fleece, for salving, reduces the price of the laid to 5s. 6d.; leaving, however, a profit of 9d. more than the unlaid, besides the many advantages formerly mentioned.

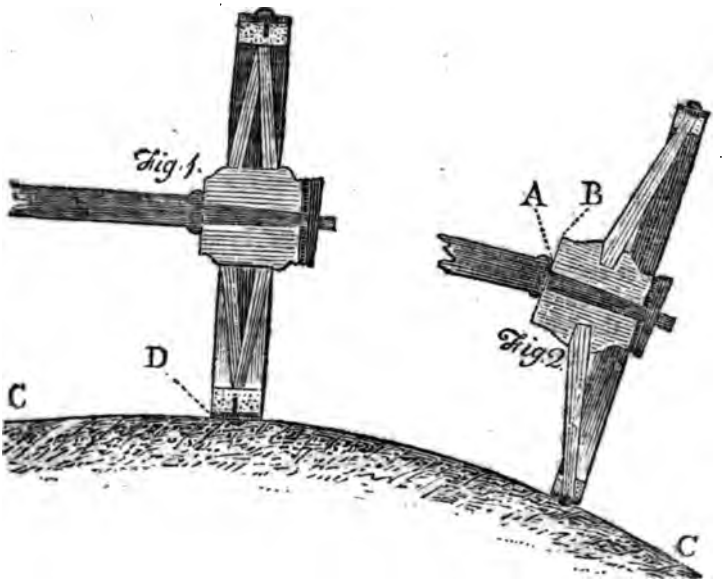
The deterioration in the quality of the wool, consists only in the dark hue which salving gives it; as, for the purposes to which short wool is applied, I find, in general, that the wool-staplers like it as well, if not better, than the unlaid. I never heard of any loss by death, or the health of sheep being injured by smearing, except a few days sickness at first; which inconvenience is, however, now avoided by using the tobacco liquor, with a proper proportion of the spirit of tar (which ingredient ought never to be

be omitted), the expense of which *recipe* will amount, I find, to nearly 1d. per head. Cold, wet, and exposed situations, injure the condition of the sheep; and the poorer they are, I presume they will be more liable to vermin. The reason for laying smearing aside in the Low country, has been mentioned above, viz. the breed being chiefly of the long-wooled sort. No houses are (or can be, I may say with truth) erected to shelter the ten thousandth part of the stock bred on the Border hills.

During the foregoing remarks, I have carefully avoided taking notice of any of A. S.'s attempts at wit, which he introduces with a view to render ridiculous a practice which he does not seem to understand. I would however advise him, as he appears to have the public weal so much at heart, that if at any time, from too liberal potations, he should think himself in danger of the braxy, to use the precaution he wonders has not before been thought of; and at the same time, if he has a bald pate, or is annoyed with either of the diseases which, in his own words, are quite familiar to a Scotchman, to get himself salved, and favour the public with the result of his experiments, which perhaps, in the end, might benefit both his head and his pocket. The addition of the feathers would vastly become him; and if set up on one of our bleak hills in a wintry day, would soon make him acknowledge the benefit of his covering, over and above the felicity arising from the operation.

These observations submitted to you, are the result of my own experience, with what information I have been able to collect from more experienced hands, and I trust you will find them correct. Facts, Sir, are stubborn things; and it will require much more strength than possessed by one of A. S.'s powers to pull down a fabric which has stood the test of experience for ages. Farmers are, in general, open to conviction where their interest is concerned; and I have no hesitation in saying, that every one of my brethren around me, would willingly abandon a practice which is attended with much trouble and expense, were it proved to be prejudicial to our flocks or interest; till then we must just jog on, and not be put out of our way by every puff that blows. We have buffetted many a cold hard storm; and would be sorry to see the poor animals shivering with cold, while we could add to their comfort by a sixpenny coat, and at the same time put ninepence additional into our own pockets. Should the above remarks merit a place in your useful Work, you will oblige me by inserting them. I remain, Sir, your most obedient servant,

A Border Farmer.



TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Construction of Common Cart Wheels.

SIR,

I BEG leave to submit to your observation, a few remarks on the defects of the common cart wheel, and also an attempt to remedy these defects; which, if you think of sufficient importance, I would be glad to see in your Magazine.

The common cart wheel is part of a cone, with the small end towards the outside; the axle also is bent down at the ends, that the wheel may fit the convexity of the road, and the spokes may stand perpendicular.

This bending of the axle makes the inside end of the nave of the wheel (at B, fig. 2.) to press hard against the part of the axle opposite to it (at A), whereby the friction is much increased. The wheel is also, by this bending of the axle, thrown out of the perpendicular, which makes also the friction greater, as the wheel must be held up, as well as drawn forwards. The wheels are also brought nearer to each other at the bottom, which, by narrowing the base, makes the cart more liable to be overset; and also, when the shafts are raised above the level of the wheels, they are brought

brought nearer to each other before than behind, as may be easily seen by observing a loaded cart set upon end. Though this is the case only in a very small degree, yet if it can be avoided, so much the better.

The narrowness of the rim is also a great defect; as, on a hard road, a broad wheel is as easily drawn as a narrow one, of the same weight; and on a soft road, much easier.

The proposed improvement, is, to make the axle perfectly straight, and not in the least tapered at the ends.

But as the spokes of a wheel, dished in the common way, would not stand perpendicular, when used with the straight axle, they should be dished alternately, from towards the outside and inside of the nave. Thus every three spokes will form an arch, as the wheel goes round. (See fig. 1.)

The iron rim put on from the inside, so as to turn the narrowest circumference of the wheel towards the cart, will fit the convexity of the road, without bending the axle, (see fig. 1. at D); the wheel will thus stand perpendicular, and nothing will be required but to draw it forward. If the rims of wheels were double the common breadth, the expense of maintaining roads would be greatly diminished, as a cart with wheels double the common breadth, would press no harder on a given part of the road, loaded with 20 cwt., than one with the common wheels would do with 10 cwt.

Even if they were not generally adopted, so as to produce an advantage to the roads, they would be advantageous to the individuals who used them on a soft road, especially to farmers; as a cart with broad wheels might be used on land where it would be impossible to draw a common cart; even on land not so soft, they would be an advantage in not cutting the turf, or poaching the surface.

Wheels of the proposed breadth may be made so thin as to be very little heavier than common: as the rim of the narrow wheel generally gives way where the spokes are let into it, less wood is cut out in the broad than in the narrow wheel for this purpose.

Fig. 1st, The proposed improvement.

Fig. 2d, The common wheel.

C C, Section of half the breadth of the convex road.

I am,

Sir,

Your most obedient servant,

Glasgow, 27th June 1806.

BRANCH II.

Agricultural Intelligence.

The winter quarter has been unfavourable to almost every branch of arable husbandry, and in several districts furnished few opportunities of executing ploughing and other operations in a successful way. At the date of our last publication, the sowing of wheat was much behind, particularly in those counties where that valuable grain is extensively cultivated; and the ground, in numerous instances, had become so wet, that hardly either plough or harrow could be employed on clay soils with advantage. Notwithstanding of these adverse circumstances, a good deal of wheat was deposited in the ground during November; but toward the end of that month, the wetness increased to such a degree as to stop further procedure, and even in many places to interdict the plough as completely as if the ground had been bound up with frost. December furnished variable weather, few days passing without less or more rain; but as fierce and uncommon high winds generally followed, the earth got dry to a degree that permitted ploughing to be executed, though in many places very imperfectly. Indeed, as the year drew to a close, people were under a necessity of taking the work in that way rather than none at all; though, without a considerable quantity of frost, it is difficult to conceive how the harrowing process is to be performed. Should a severe drought occur in March, such as happened in spring 1790 after a similar winter, the consequences may be of the most alarming nature. In the above year, the ground became so hard as to render the effect of the heaviest harrows and rollers of little avail in reducing it; and more than double time was required to finish a field, badly as it was done, than customarily happens. Some passing frosts occurred in January, but of too short duration to be of material benefit. The winter, taking it all in all, may be considered as one of the mildest with which this country has been visited for many years; vegetation has been but partially retarded; the growth of late sown turnips has not been impeded; the early wheats present a thriving and healthy aspect; and grasses show a verdure not much inferior to what is usually displayed in the beginning of May. However, should the portion of cold, ge-

nerally received at one time or other of the year, be dispensed in the spring months, the wheats on all thin soils must be exposed to imminent danger.

As many fields intended for wheat remain to be sown in the spring, a few words may not be unseasonable as to the *modus operandi* of the seed process at that period. In the *first* place, the earliest opportunity, after the ground is dry, should be seized upon; though, where the soil is rich, and the climate early, sowing may be risked so late as the end of March. This, however, may be viewed only as a matter of necessity, not of choice; and it may be added, that the late crops are usually inferior, both in quantity and quality, to the earlier ones, while they are exposed to greater danger from the equinoctial gales in autumn. *2dly*, The seed ought to be sown much thicker in the spring than in autumn, or even in the early part of winter, so as the ground may be filled with plants at once, without stopping to gather them by tillering. Thick sowing also lessens the quantity of annual weeds, a danger to which spring-sown wheat, even on the cleanest soils, is more or less exposed. In other words, the growth of these foes is impeded, by giving the ground a speedy covering of artificial plants. In the *third* place, an excess of harrowing ought to be avoided, and no more given than sufficient for covering the seed and levelling the surface. On this point, however, every person will judge for himself; because the quantity required must necessarily be regulated by soil, situation, and other circumstances. It is enough to state, that, if annuals are in the soil, the finer it is reduced so much more will their growth be accelerated. Much damage is often sustained from ploughing land too deep, which had carried turnips, and is afterwards seeded with wheat. In fact, such land ought not to be stirred deeper than the horse and hand-hoes went in the preceding season, otherwise a fresh flight of the enemy is brought into action, which, under different management, would have remained dormant and inactive.

Markets, on the whole, have not varied greatly since our last; any rise that has taken place being more attributable to the superior condition of the grain than to other causes. The estimate then given of the different crops seems to have been completely realized; indeed, it was formed from authorities that might safely be relied upon. Wheat has kept tolerably steady in price, though, as qualities are vastly dissimilar, the averages of markets have fluctuated much, and according to the nature of the supplies presented. The price of flour is therefore a surer test of the real value of wheat, than the market prices of the raw article; and from this

test it appears, that the general quality of the English wheat must be of an inferior description. Indeed, we are almost inclined to believe, that the effects of that dreadful malady, mildew, which raged so extensively through England in 1804, are not yet overcome; and this belief is strengthened by the large stock of inferior wheats which have this season appeared at Marklane. Perhaps the want of thrashing machines may be another cause, in this humid season, why wheats are so variable and unequal, at least in condition and value. Every person in the least versant with the qualities of grain, is able to appreciate the difference in the value of wheat thrashed by a machine, with that thrashed by the flail. In a year like the present, it may perhaps amount to five, and in some cases even to ten *per cent.*; and this material difference is accompained with one of another kind, severely felt in a dull market, namely, that few will purchase wheat thrashed by the flail, while they can obtain that thrashed by a machine. The reason is obvious, and would not have been mentioned, were we not aware that many of our readers are unacquainted with the benefits arising from thrashing machines. Instead of lying in a chaff heap for days and weeks, as must be the case where the flail is used, thereby becoming soft and tough, the grain, when thrashed by a machine, is instantly separated from the chaff, and prepared for market, without the smallest delay. Any further illustration is unnecessary.

Cattle and sheep markets have not advanced in the course of this quarter, full supplies having appeared in every part of the island. The quantity of *keep*, from the humidity of autumn and mildness of winter, has been great, and occasioned a larger portion of live stock to be sooner ready for the butcher than could have been reckoned upon. Perhaps this circumstance may have an opposite effect in the spring and beginning of summer; though, on this point, it would be rash to offer a positive opinion. So far as sales have hitherto been made, sheep may be viewed as the most profitable article, especially those of the true black-faced breed. This kind would seem to be rather scarce; in other words, the demand for them is fully equal to the quantity marketed.

The Property-tax will now be severely felt by the farming interest of Scotland, as the ten *per cent.* bill of last session, by the addition of two words (*in England*) takes away the right which Scots farmers formerly possessed, of having *one eighth* deducted from their rents, before the tax was ascertained. The withdrawing of this deduction, together with the allowance for children, of course renders the farmer's tax, when he is rateable, one shilling in the

pound of the rent which he has agreed to pay to his landlord. It is a dubious point, whether many of the recently set farms will afford a profit to the holder, at least in the first instance, adequate to the extent of the tax, which, at all events, he must pay, even should he fall back with his landlord; but, when it is considered that the act goes upon the assumption, that his profits are ten times the amount of the tax, then the absurdity of the criterion adopted to ascertain them must be discernible to the shallowest capacity. The complaints of individuals are not to be listened to in a business of this kind. But why do not farmers associate, in imitation of the manufacturers of pig-iron, and carry their joint complaints to the table of Parliament, who, it must be presumed, have subjected them to a burthen, without knowing their inability to sustain it? And, why do not the HIGHLAND SOCIETY, the only public body in Scotland to whom farmers can look for assistance, take the matter under their serious consideration, and use their endeavours to get that relief which every one, who takes the trouble to investigate the situation of farmers, must know to be merited? Were that respectable body to take up the question, we do not entertain a doubt but that relief would be obtained. There is not a farmer within our knowledge unwilling to pay ten *per cent.* of his *income* for the defence of the country, seeing that such a sacrifice is called for. But then this income is not to be a nominal and fictitious one, only to be found in the clauses of the bill which imposed it, or in the books of the commissioners under whom it is assessed and collected. No! No! No! The farmer, to be satisfied, must be assessed on the same principle with his brothers the merchant and manufacturer; and he ought to be dissatisfied (as he will be, if the spirit of man is in him) so long as he is not considered upon the same footing with other classes. That he is not, at the present moment, considered in that light, needs no illustration. In fact, the less he is able to pay, so much higher is he made to pay; and the worse that his bargain is with the landlord, so much greater is his share of the Property-tax. We find no fault with the tax itself. On the contrary, we esteem the *real* principle to be a good one, namely, that every man ought to bear his share of the national expenses in direct proportion with his means and abilities. It is the *assumed* principle, operating upon the farming interest, which we object to; whereby individuals of that interest are unequally taxed, while the whole body are placed upon a footing which at any rate renders their share of this tax infinitely heavier than the share of the burthen sustained by the trading and manufacturing interests. This is the sum and substance of our objections to the Property-tax bill; and, were the

they removed—were farmers placed on the like footing with landholders, placemen, stipendiaries, annuitants, merchants, and manufacturers—were their taxes assessed upon gains and profits, after rent and expenses of culture are deducted—then the Property-tax bill would meet with our unqualified approbation.

We are requested, by that active and intelligent gentleman Mr SITWELL, to intimate, that the *Sheep Shew* at Barmoor, Northumberland, for 1807, will be on the second Monday in July, when the following premiums are to be given.

'1. For the beſt pen of five wedder hogs, the property of the breeder, to be ſhown in their wool, clipped, and killed for the inſpection of the company—a Silver Cup, value Five Guineas.

'N. B. The killing may be diſpenſed with, if the parties wiſh it.

'2. For the beſt two-year old cart colt, or filly, the property of the breeder—a Silver Cup, value Five Guineas.

'3. For the beſt two-year old heifer, of any breed, the property of the breeder—a Silver Cup, value Five Guineas.

'4. To the inventor of any new implement of huſbandry that ſhall be deemed by the judges to have ſufficient merit to be recommended by this meeting to public uſe—a Silver Cup, value Five Guineas; or Five Guineas in money, at the option of the candidate.

'5. To the beſt ploughman—Three Guineas. To the ſecond beſt—Two Guineas.

'6. To the ſhepherd who ſhall, *without* any aſſiſtance, ſave and rear the greateſt number of lambs from any flock *not* exceeding 200 ewes—Three Guineas.

'7. To the ſhepherd who ſhall, *with* aſſiſtance, ſave and rear the greateſt number of lambs from any flock *exceeding* 200 ewes—Three Guineas.

'The candidates, in both caſes, to ſtate the age of the ewes; and the certificates to be ſigned by the maſters.

'It is Mr Sitwell's intention, in future years, to give ſmall premiums, or medals, for the beſt ſeeds of wheat, oats, barley, turnips, and graſs; and to make the meeting two days; as, from the multiplicity of buſineſs, it cannot be gone through in one day.

'Mr Sitwell hopes, that any gentleman having prime ſtock to ſhow, will honour him by ſending them to this meeting on the Saturday preceding, when every attention will be paid them.

'Several lots of thorough-bred Leiceſter ewes and gimmers, bred by Mr Sitwell, will be ſold by auction in the afternoon.'

SCOTLAND.

Upper Annandale Quarterly Report.

THE unco n mildneſs of this winter has maintained an uninterrupted verdu e on the paſtures; and field turnips are ſetting for bloſſom ſtalks.

ſtalks. The ſcarcity of provender for cattle has been much by the unuſual quantity of winter paſture; and in this count there is little clay ſoil, the plough has executed a very confid tent of work, although ſome of the ploughed lands are beg grow.

It has not been neceſſary to ſtore the turnips this winter; they have kept in that way. Wheat after potatoes, the uſ which it is ſown here, looks well; the quantity on the increa meal, 2s. 8d. *per* ſtone Amſterdam; Barley, 4s. *per* Wincheſt nearly 24s. *per* boll; Sown hay, 1s. to 1s. 2d. *per* ſtone of 24 dupois: Straw for litter, 8d. *per* ſtone; Wheat, 8s. 9d. p The prices of ſheep and cattle are diſcouraging to the farmer; of fat and hides alſo low. —— *Jan.* 16.

Selkirkſhire Quarterly Report.

THROUGH the whole of this quarter, the weather hath bee ally varying between foul and fair; ſometimes heavy rains, acc with high winds, have fallen, and now and then a few good intervened; but, upon the whole, leſs froſt and ſnow have than ever remembered. The ground has not yet been cov ſnow, and not above four or five froſty nights have happened; ploughing has got pretty forward. Turnips and paſture graſs tinued freſh and eatable, the latter furniſhing more food than is the caſe at this period of the year,—a favourable circumſtance who felt the effects of the ſummer drought on their meadow fields, and who were ſcarce of fodder for their beſtial.

Laſt crop turns out but a middling one. Much of the ſeaſon therefore, it could not be expected that a given quantity of c yield ſo much meal as in better ſeaſons. Prices keep nearly fl though, from the waſte of corns amidſt the fall of kingdoms, expected to look upwards. More ground ſeems allotted for v year than uſual; therefore, barley and bear are loſing groun ſame ratio. Store ſheep are in prime condition; but a gl market, at the end of the year, left the grazier ſcarcely a f Improvements in this county ſeem to keep pace with the grow perity of Britain. For the encouragement of which, the f requiſite, after putting the active farmer in poſſeſſion of a co length of leaſe, is *the opening of a direct communication with good roads.* A great part of this diſtrict have long felt, an ially feel, the bad effects of ſuch improvident policy; but th *day and generation* ſeem anxious to atone for former neglects. ber of perſons have been employed for two or three years pa ng roads up Yarrow and Etterick, a good part of which a niſhed; and alſo in cutting a new line acroſs the county, an Peebleſhire, thereby opening up a more direct communi Mid-Lothian, whence all our lime, coal, tar, &c. are procu which the ſurplus of the county produce, is uſually ſent. oad is finiſhed it will lower conſiderably the expenſe of li

ticle, in many parts, ſtanding the improving farmer not leſs than 15s. or 16s. per cart load of two bolls, or twelve Wincheſter buſhels. None of your reporters have, as yet, ſaid any thing about the dog-tax. In this county, it is enforced with all the energy that an act of the Legiſlature deſerves; and ſix ſhillings are levied from every ſhepherd for one, and double that ſum if he keeps two dogs; even cow-herds do not, in every inſtance, eſcape. Whether the ſhepherd's dog was originally intended by the Legiſlature to be taxed, ſeems dubious; the act in different counties being variouſly interpreted; and in ſome no collection of this kind have been made at all. Every man in his Majeſty's dominions, to be ſure, ought to bear his ſhare of public burdens; but where is the juſtice in ſubjecting one part of the community to a tax, from which another is entirely exempted?——*Jan.* 16.

Argyleſhire Quarterly Report.

HIGH winds and heavy rains, is the ſhort account of our winter here. We had an abundant crop, and now have plenty of time to thraſh it out, as little can be done without doors. The rents of our land are riſing, though their produce and the price of cattle are on the decline; from which it may be inferred, that the ſpirit for farming and grazing is much alive among us. Butcher meat is about 5d., meal nearly 2d. the Engliſh lib.: butter from 1s. to 14d., and cheeſe 5d., the Tron lib.; for our weights and meaſures are as various as in other parts of the kingdom; and by a ſtrange whim, different, in different commodities. Oats, being of various qualities, ſell, as uſual, according to the value of the meal which they are eſtimated as likely to produce. Bear, in the diſtrict in which it forms the principal article for ſale (Kintyre), is become of little value. Thoſe who take it in, will make no price till they ſee whether, or how, they can diſpoſe of it. Thus, the merchant is ſecure, and the farmer muſt take his chance. If any of our patriotic legiſlators look at the FARMER'S MAGAZINE, one might humbly remonſtrate on the impropriety of claſſing this diſtrict (in the Diſtillery Act) with the low counties of Scotland, when all its grain could hardly ſuffice for one large ſtill, nor all the capital it could afford for ſuch a buſineſs, ſuffice to pay the duty, or ſet it agoing. It will perhaps be ſaid, that the farmers may export their grain. But in a ſtripe of a county forty miles in length, with only one ſhipping port, poor farmers, with poor horſes, will rather take any thing at their door, than drag ſo heavy a commodity to the diſtance of perhaps twenty miles. The conſequence is, that hundreds of poor creatures, who have nothing to loſe, will attempt to ſmuggle it into whiſky, and help to ruin the health and morals of themſelves and others. Where, then, it may be aſked, is the juſtice or wiſdom of denying this diſtrict ſmall legal ſtills, as allowed in the other parts of the Highlands? or where is the policy of loſing from 10,000l. to 15,000l. a year, that might thereby be added to the public revenue, and that without incurring one penny of additional expenſe to Government?——*Jan.* 17.

Banffſhire Quarterly Report.

The weather was more than ordinarily propitious for every kind of

work during this quarter; conſequently labour is well advanced, and ſeaſonably performed. From the uncommon mildneſs of the two preceding months, wheat lately preſented a more vigorous appearance than uſual; but ſome bare froſts, a few days ago, gave it a ſevere check. This grain is now more extenſively cultivated in ſome of the fertile diſtricts near the coaſt, than barley, but has not been much tried in the interior of the county. The crop is turning out as to quantity nearly about an average; but, as was apprehended at the date of laſt report, the oats are, in many inſtances, ſhort in meal two pecks per boll. About two months ago a briſk demand took place for grain, and conſiderable ſales were made; a fortunate circumſtance, as money was much wanted at term time. Wheat moſtly all ſold at 33s. and 35s. per boll; a great quantity of old oats at 18s. and 20s.; and barley from 23s. to 25s. But prices have declined very much for ſome weeks paſt. Barley is now little more than 18s. and 19s.; and common oats 15s. and 16s. Little change has taken place in the price of live ſtock. A full ſupply of beef and mutton in the market, at 5d. per lib. Dutch. Since the introduction of turnips by the late Earl of Findlater, a great ſupply of well fed cattle went regularly to Aberdeen from Banffſhire; but the turnip huſbandry extending ſo much in that county, and there being little conſumpt at home, obliged the farmers to relinquiſh ſtall feeding, and give their turnip to young cattle; and as conſiderable attention is paid to this branch, a ſet of choice three year old ſtots will generally be found in high condition, however ſoon the dealers may be able to commence buſineſs in the ſpring. On the 25th *ultimo*, the moſt tremendous gale of wind came on that has happened for 20 years, which occaſioned conſiderable damage; houſes were ſtripped of thatch; ricks of corn, and ſtacks of hay, turned over; and a great number of trees torn up by the roots. The gale ſubſided towards night, and fortunately did not occaſion more ſerious damage.——*Jan.* 17.

Aberdeenſhire Quarterly Report.

During the bygone quarter, the weather has been uncommonly fre and open for the ſeaſon, with frequent falls of rain, and ſome very hea gales of wind. Of this laſt, the 25th December furniſhed a ſam which will not be ſoon forgotten, unroofing houſes, overturning ſ of corn and hay, breaking trees, and tearing them up by the roots &c. Little interruption has been given to field work this winter, the taking up of turnip regularly for cattle. Of courſe, the labo is far advanced, and the cattle have thriven exceedingly faſt; t turnip in general is pretty far conſumed, and with many will till the cattle go to graſs. Both bear and oats turn out well u flail, and are generally of good quality; the market for both pretty ſteady; Bear, 20s. to 24s. per boll; Oats, 17s. to 2 Oat-meal, at 18s. and 20s.; at which prices, a very conſider tity has been bought and ſhipped off. Fat cattle have ſold r 8s. to 9s. per ſtone, ſink; and lean ſtock have had plenty of at a fair value. Very little alteration in the price of labou year's rates in any department. The malt tax, which has

ed with rigour, comes to be a very ſerious aſſeſſment. It ſeems to be a determined point, that the Scotch big, though far inferior in value, ſhall be equal in point of duty to the Engliſh barley! This, with the uncommon ſeverity againſt ſmugglers, whilſt no ſmall licenſed ſtills are permitted to work in the county, forms matter of contemplation, at leaſt, to many of your numerous readers.——*Jan.* 22.

Tweeddale Quarterly Report.

HARVEST in this county being generally begun on the ſecond week of September, and finiſhed about the firſt week of October, the weather was more favourable than in lower diſtricts; conſequently, the grain crops of every kind were brought to the ſtack-yard in the completeſt order and condition. The crop being much deficient in bulk, a ſcarcity of fodder was feared; and notwithſtanding the uncommonly freſh winter, that fear will in many caſes be realized. Live ſtock of all kinds, depending on the paſtures, have perhaps never been better ſupplied, vegetation through the whole winter never having got a check; and at this time the paſtures are more verdant than, in the two laſt years, at the end of April. The winter, however, having been uncommonly windy and wet, the feeding ſtock have not come on well, eſpecially where ſheep were ſlaked on the turnip fields, and had not liberty to retire to adjacent graſs lands, which, in wet ſeaſons or ſoils, is of great importance. No animal takes worſe with lying in puddle than ſheep. To ſupply cattle at the ſtall with turnips was often an arduous taſk, it being extremely difficult to cart the turnips from the land, without poaching it ſo much, as to injure it ſeverely for the ſucceeding grain and graſs crops. Turnips have, however, been preſerved in the beſt condition by the freſhneſs of the ſeaſon, except that in many inſtances they have run to ſeed. Owing to the openneſs of the winter, field labour for ſpring crops is in many places almoſt finiſhed, but much of it in a very imperfect manner. As we had ſeldom two dry days together, nothing but lea could be laboured to purpoſe.

From the preference given by diſtillers and brewers to Engliſh barley, the ſowing of that grain has been much diſcouraged, many of the farmers in this county having laſt year, and eſpecially this year, ſown conſiderable quantities of wheat, which, ſo far as the experiments have gone, turned to good account; and at this time of the ſeaſon, what was ſown is looking well, and, ſhould the ſpring months prove favourable, promiſes every manner of ſucceſs. Wheat here is ſown either on clover lea, with one furrow; or, after turnip, eat off with ſheep, or carted from the field, and ſtored for ſtall feeding; which practice was laſt year carried on with great advantage almoſt through the whole of winter, the wheat being ſown as the field was cleared.

The young graſſes are looking well, and may be expected to ſupply the deficiency of laſt year's hay crop, which was little more than half of an average one. Where ſales have been made of the feeding ſtock, the profit obtained has not been great; little more than 8s. per ſtone, taking offal, having been got. Though they pay a little better than laſt

year,

year, being bought in at lower prices, yet this is not ſufficient to
niſy for the preſent high rent of land and expenſe of farming. T
crops are turning out in the barn enough for the bulk, but not
quantity of ground ſown. The oats will not come near an a
the barley not much below an average; but the peas are not half
Our markets have continued through winter without much fluc
for ſome weeks paſt they have rather looked up. The preſen
are, for Common or Blairſlie Oats, 19s. to 20s. per Lothian bo
tatoe ditto, from 20s. to 21s. 6d. per ditto; Barley, from 26s.
per ditto; Bear or Big, from 24s. to 25s. per ditto; Peas, a fe
ticle, from 20s. to 21s. per ditto; Wheat, 40s. per ditto. Th
is moſtly ſold at 9s. and 10s. per ſtone, of 23 Engliſh pounds,
Edinburgh market, our diſtance from that place being from 1
miles, which accounts for the price being much inferior to the
polis, as the purchaſer drives it at his own charge.

The farming intereſt in this county, and I believe every wh
is univerſally diſſatisfied with the principle by which the Propert
aſſeſſed. It requires little penetration to diſcover that the *datum*
ciple on which that tax is aſſeſſed on the occupiers of land is fa
in the extreme, as it plainly ſuppoſes that the half of the free
of all the landed eſtates in Scotland goes into the farmer's
That the tack-duty, or land rent, however high it is ſtretche
into the proprietor's pocket, nobody doubts; and the *per cents*
thereon, as their ſhare of the tax, is fair. But that the half
tack-duty or rent goes into the farmer's pocket, is in a thouſa
to one, ſo abſurd and fallacious, as not to require a ſingle argu
refutation. In all caſes where the tax is impoſed poſterior to the
of farms, it muſt operate as an *ex poſt facto* tax, on which the
could make no calculation when taking his farm; and even in r
cent caſes, where the farms have been taken ſince the tax was
poſed, the leſſee could not know what he had to pay, addition
made almoſt every ſeſſion of Parliament, which could not be
till they were impoſed. That no application has been made to
ment on the part of the farmers againſt the principle of the bi
applies to their caſe, is wonderful indeed, and cannot fail to
the financier of the juſtneſs and equability of the tax; though,
eaſe applied to the manufacturers of cotton or pig-iron, the dea
in Parliament would have been ſtunned with their complaints.
reſpectable body of men, who have in their poſſeſſion, and und
management, almoſt the whole eſtates in Great Britain, ſh
marked out from the reſt of the community, and made to bear
ſhare of public burthens than others, is a circumſtance to mo
plicable and myſterious, and not to be accounted for upon any
or ſatisfactory principle.——22*d January.*

Mid-Lothian Quarterly Report.

In former reports, the verſatility of the weather has been
noticed; but that portion of the current quarter preceding No

day may be better characterized by its conſtant and inceſſant wetneſs: perhaps not one ſingle day and night elapſed without a torrent of rain, ſometimes accompanied with uncommon high winds, which has done conſiderable damage in different reſpects.

The ground was ſo very wet, as to put ploughing as completely at a ſtand as if it had been ſtopt by ſevere froſt. Indeed, the ground was ſo drenched, that an honeſt neighbour undertook to demonſtrate that the earth was wetter than it poſſibly could have been after the univerſal deluge in the days of Noah. Since the commencement of the new year, the plough is buſy in turning over graſs grounds for the enſuing crop.

The markets are kept well ſupplied, both with corn and cattle. The country ſeems full of the latter; and it has required ſo much ſtraw to keep them dry, that it is doubted whether ſuch large ſupplies of grain can be furniſhed to the market for any length of time as has lately appeared. The ſtack-yards were not large at the beginning of the ſeaſon; but now they may be ſaid to have aſſumed a pigmy appearance. Oats, as expected, are found deficient, and yield from one to two pecks of leſs meal than in ordinary ſeaſons.

The new ſample market at Edinburgh does not ſeem to take well, and ſerves little elſe than to exhibit the qualities of the grain in the hands of the different corn merchants who attend it. This the merchants do not repine at, as they afterwards meet with purchaſers in private, who have ſeen what may ſuit them. To ſtate the difficulty of introducing new cuſtoms as a reaſon, is ſaying but little; but the following, amongſt other cauſes, may in ſome degree account for the backwardneſs of one claſs of purchaſers.

For years paſt, the price of bread at Edinburgh has been exempted from the fetters of an aſſize; and perhaps the community has ſuffered nothing by the exemption, every baker being at liberty to ſell his bread at what price and degree of fineneſs he chooſes; of courſe, thoſe who ſell the beſt bread, and moſt reaſonably in proportion to its quality, have the greateſt run for it.

But by the regulations of the market, a certificate of every boll that is ſold, and at what price, muſt be left with the clerk of the market, for the inſpection of the Magiſtrates. By theſe prices it is conjectured the Magiſtrates may in time aſſume their power of regulating the aſſize of bread: hence, the bakers, who are the mealmen in this country, and purchaſe privately, which of courſe will diſappoint ſuch a meaſure, keep aloof. Price of the quartern loaf, 1s.——*Jan.* 23.

Roſs ſhire Quarterly Report.

DURING the preceding quarter, we have had much wet weather, but uncommonly little froſt or ſnow.

Cattle on turnips, have not been obſerved to make much improvement, owing, no doubt, to the conſtant humidity and chilly ſtate of the air, which muſt be injurious to thoſe fed looſe in open courts and ſhades, except where plenty of litter can be furniſhed, which is rarely

the

the caſe in this county. There having hitherto been no ſnow has, in all probability, enſured a plentiful ſupply of fodder for the ter. The turnips keep free of rotting, but do not ſtand ſo much as laſt year.

Although the corn of this county was unuſually well harveſted, of courſe early ready for ſhipping, yet little was done in that trade the beginning of the preſent month. The ſituation of the contin led the farmers to expect higher prices than markets yet warrant. A it will appear from the annexed quotation, at which conſiderable ſ have been made, how far they have ſucceeded in bringing the bu over to their opinion.

Wheat *per* Linlithgow boll - -	35s. to 37s. 6d. &
Barley *per* Roſs-ſhire boll - -	26s. — 27s.
Potatoe oats *per* do. of 5 firlots - -	25s. — 26s.
Common do. *per* do. of do. - -	20s. — 21s. & 22s.
Oatmeal *per* boll of 9 ſtones Dutch -	22s. — 24s.

23. *Jan.*

Letter from Falkirk, Jan. 24.

'We have had an ample ſhare of the wet weather that appear have prevailed very generally during a great part of laſt quarter; an conſequence of our clayey ſoil, low-lying flat land, with ſcarcely any clivity for carrying off ſurface water, ſhall feel its ill effects proport ally long.

'Although the ſtate of the weather has kept the plough almoſt with us for ſome time, yet as a great part of the land uſually plou here was turned over immediately after harveſt, before the earth ſoaked with moiſture, ploughing can ſcarcely be ſaid to be very fa hind. Little rain has fallen ſince the beginning of the preſent mo but the froſt has been ſo inconſiderable, that much of the impo buſineſs of carting out manure yet remains to be done. The wea though wet, has been very mild, and conſequently early ſown aut wheats, (the general and neceſſary practice with us) are unuſuall advanced. What may be the conſequence to the coming crop, of uncommon forwardneſs, at ſo early a period, muſt depend on afte cumſtances; at preſent, it is healthy, vigorous, and thick on the gr The idea given in laſt report, of the grain crops, turns out pretty ect. Wheat does not make a return on the barn floor equal t great bulk in the ſtack-yard, owing to an unuſual quantity of grain; and the quality is greatly inferior to laſt year. Oats, pa larly the potatoe kind, are not generally conſidered as mealing well I cannot ſay this is the caſe with thoſe grown on my own farm, w yield fully as well at the mill as thoſe of laſt year. In our m wheat, owing to the great proportion of inferior quality, can ſtated above 36s. per boll, Linlithgow ſtandard meaſure; Barley Beans 23s. per Stirlingſhire meaſure; Oat-meal 17d. per peck. utcher market has been well ſupplied, with little variation of owing to the open ſeaſon, and no very tempting prices, under

exiſting circumſtances of the times, the ſtack-yards are fuller than uſual at this period; indeed, ſuch a conſiderable quantity of laſt year's produce remained when the preſent crop came in hand, that little of it, comparatively, was thraſhed out before December; and no motive, beyond a temporary ſupply of fodder for the cattle, urged to any great exertion in this way. The general opinion, indeed, ſeems to be in favour of higher prices ere long, probably from an idea that the only ſource of ſupply to which we can at leaſt for ſome time reaſonably look, is our home produce; and it is indeed the only real one to which we ought to accuſtom ourſelves, at all times, to look with confidence for our daily food. The improved ſtate of agriculture embracing in its ſcope a more extended cultivation of wheat, to the great benefit of the public, as well as the individual, in ſpite, too, of injudicious obſtacles, and antiquated notions about the ſcourging effects of that crop, warrants us in placing dependence on our home produce for the firſt article of neceſſity. The almoſt incredible riſe of rent that is daily taking place, however it may ultimately affect thoſe who engage to pay it, muſt neceſſarily enſure an increaſed ſupply of the moſt valuable bread corn, as it is from ſucceſsful crops of wheat that ſuch are to be paid, if paid at all. When on the ſubject of riſe in rents, I beg leave to ſtate an inſtance that has recently occurred, which will ſhow the ſuperiority of an advertiſement in a newſpaper, of a roup, over an opinion from the higheſt authority in agricultural matters. A farm, by no means of the beſt ſoil, in a neighbouring diſtrict, ſurveyed by diſtinguiſhed agriculturiſts (one of them the learned Profeſſor of that ſcience at Edinburgh) who, as I am informed, conſidered 4l. per acre as a ſmart rent for the premiſes, (and indeed ſome of the moſt intelligent farmers in the immediate neighbourhood, long and well acquainted with the nature of the farm, thought theſe diſtinguiſhed judges had even ſtretched the point); nevertheleſs, and as if every rational opinion on theſe matters were now to be ſet at defiance, forward ſteps a tenant, and gives 4l. 17s. 6d. per acre. The very Property-tax to be paid by the tenant, would, little more than half a century ago, have been thought a good rent for the farm, but which may, perhaps, now-a-days, be overlooked as an item too trifling to be taken into the eſtimate.—We ſhall certainly ſoon ceaſe to be ſurpriſed at any thing of this kind, it is become ſo much the order of the day.'

Forfarſhire Quarterly Report.

THROUGHOUT the preceding quarter, the weather has been uncommonly variable, and a conſiderable quantity of rain has fallen. As the froſts have not been ſevere, with ſcarcely any ſnow, field labour in moſt places is well advanced; and the early ſown wheats, on well prepared land, have a freſh and growing appearance. Thoſe later ſown have not ſo promiſing an aſpect.

The grain markets have been tolerably ſteady, and the demand good. Wheat, during the ſeaſon, may be quoted at from 35s. to 40s. per boll; ſome fine ſamples perhaps higher. Barley has rather declined of late.

Current

Current prices ſince November for good grain 25s. to 28s.; Oats 2[illegible] to 25s. per boll.

Turnips are beginning to ſuffer a little from the froſt: they have turned out a better crop than once ſuppoſed. As there are a number of ſpecies of turnips, and thoſe of different qualities and weights per acre, it would be obliging if any of your correſpondents, who have tried by *experiment* the different varieties, would communicate which they moſt approve of, and the reaſons why; as it muſt be of conſiderable importance to thoſe who raiſe turnips on an extenſive ſcale, to know the moſt valuable kind.

Cattle for wintering ſold pretty high, and in general are in good condition. As the weather has been open and favourable, a ſcarcity of provender is not now feared.——*January 24th.*

Berwickſhire Quarterly Report.

We had a great deal of rain during the two firſt months of this quarter, attended with an uncommon mildneſs of the atmoſphere, and frequent high gales of weſterly wind. Since Chriſtmas, however, the weather has been comparatively dry; little ſnow has yet fallen; and the few froſts that have taken place, have been very tranſient; ſo that vegetation has hitherto experienced no material check.

Winter wheats and young clovers have a freſh appearance, and ploughing is in a forwardly ſtate. Paſtures have exhibited a continual verdure; but, in ſituations any way liable to rot, there is reaſon to fear, that the long continued moiſture has been injurious to the flocks. Feeding ſtock has thriven well; and turnips, upon dry ſoils, have improved much ſince laſt quarter: the letting price for thoſe of good quality, has been from ſix to eight guineas an Engliſh acre.

Home bred cattle for wintering, met with a heavy ſale at all the Martinmas markets, and at prices from 15 to 20 per cent. lower than laſt year; while thoſe of the Highland breed ſold currently at a reduction of only 10 per cent. Indeed, from the ſuperior eſtimation in which Kyloe beef is held in our butcher markets, the number of cattle bought in from the Highlands, to be wintered and fed off in this county, is now very conſiderable, having been annually increaſing for ſeveral ſeaſons paſt; a circumſtance which certainly merits attention from thoſe concerned in the breeding line. There has been little fluctuation in the fat market ſince laſt Report; cattle have ſold from 6s. to 7s. per ſtone, ſink; and ſheep from 6d. to 7d. per lib. do. Engliſh weight.

With reſpect to the grain crops, thoſe of wheat and barley, when compared with the produce per acre laſt year, fall ſhort no leſs than from 20 to 45 per cent. Oats alſo are from 16 to 18 per cent. deficient, and from half a ſtone to a ſtone per boll ſhort in mealing. But it ſhould be recollected that crop 1805 was conſiderably above an average one.

Corn markets have rather declined a little ſince the middle of December, and barley ſtill continues to experience a dull ſale, though the quantity now cultivated is hardly a fixth part of what it was ten years ago. Prices at Berwick market, January 24th, were, Wheat, from [illegible] to 55s.; Barley, from [illegible]s. to 32s.; and Oats from 19s. to 22s. per boll of 6 [illegible]ſhels.

The

The truſtees appointed by the Road act of 1802, with a laudabl attention to the improvement of the county, have it at preſent in con templation to erect two wooden bridges acroſs the Tweed, one at Nor ham, and the other at New-water ford; which will greatly facilitate th communication with Northumberland, from whence we are chiefly ſup plied with the articles of coal and lime.

Perſons willing to contract for theſe bridges, have been requeſte to lodge plans and eſtimates, as ſoon as poſſible, with George Logan Eſq. at Fiſhwick, by Berwick, to whom application may be made fo further particulars; or with George Peat writer in Dunſe. —*Jan.* 26

Fifeſhire Quarterly Report.

In this county, immediately on the concluſion of harveſt, a tract o rainy weather enſued, and the winter has continued open, without eithe froſt or ſnow, to this date, with the exception once or twice of two o three days hard froſt, ſucceeded by rain and high gales of wind. Th conſequence has been, that much land, prepared for wheat, could no be ſown; and, upon wet farms, autumnal ploughing could not be car ried on; and all field labour, from the extreme wetneſs of the ground retarded, which muſt throw a weight of labour upon the farmer, i ſpring, too heavy to accompliſh in due time. This remarkably ope weather has been favourable to the turnip crop, as there has been n froſt to rot them; the paſture fields continue green, and the young ſtoc have paſtured during winter without interruption. By this means there will not be a ſcarcity of ſtraw. Prices of grain have continue pretty ſteady, but, during this quarter, have rather declined. Barley 25s.; Oat Meal, 22s.; Wheat, from 35s. to 38s. per boll. Potatoe were a fine crop; indeed, ſo abundant, that there is no market fo them, even at 5s. per boll: the farmer muſt apply theſe to feedin cattle. Oats have turned out conſiderably inferior to laſt year: ther is therefore reaſon to believe that oat meal will rather riſe than fall, fron the deficiency in quantity. The wheat ſown before the weather broke has a moſt favourable appearance; but the quantity ſown is much in ferior to what was intended, had it been practicable to go on with th ſeed proceſs. —*Jan.* 26.

Extract of a Letter from the Diſtrict of Carrick, Jan. 26.

'The rains have been more conſtant of late, and of longer dura tion, than has been known in the memory, I believe, of any perſo living. From nearly the middle of October to this time (except tw or three days when there was a little froſt), it may be ſaid, without an exaggeration, that we have not had a ſingle twenty-four hours withou rain in ſome part of it, accompanied with frequent violent ſtorms, an no ſymptoms at preſent of any alteration. The earth, in fact, ca ſcarce well be ſuppoſed more completely drenched than it is at preſent And this ſtate of the weather, ſo injurious to the health of the hu man body, has been very unfavourable for the purpoſes of agriculture Scarce any more than half the ground that was intended for wheat ha been got ſowed. There are few places where dung could be led out and to attempt to plough was in vain, while the earth nearly reſemble

a mortar tub. And, beſides this immediate effect, one might be apt to dread the conſequences to the enſuing crop, on account of the ground being in danger of ſouring from ſuch a long continued rain. The ſame weather, however, that was ſo injurious to tillage ground, has been favourable for paſture, by preſerving it green, and in like ſomething of a growing ſtate. And the turnips, at ſame time, not having been injured by a ſucceſſion of froſts and thaws, has allowed the cattle, whether in the houſe or the field, to receive the full benefit of them.

'The ardour of the farmers, ſince the commencement of this quarter, has been conſiderably damped. The grain market, contrary to every expectation, has rather declined than advanced. The oatmeal has been long ſtationary in the market of Ayr at 2s. 8d. the ſtone, which is ſomething leſs than it was ſome time ago. Other grains have declined in proportion; ſo that while the ſtate of the laſt crop, and the general ſtate of Europe, led them to expect an advance before this time, their immediate views have not been realized, though there is great reaſon to ſuppoſe that their wiſhes will be fully gratified, before many months elapſe. There has been ſtill a greater fall in the price of black cattle than of grain. Cattle fit for the Engliſh market have declined from 30s. to 3l. a head; and many a man, ſpeculating upon the proſperous ſtate of the country towards the end of harveſt, has been much hurt by this ſudden fall. Sheep did not altogether ſuffer in the ſame proportion; for this good reaſon, that the greateſt part of the ſale ſheep through the moors of Carrick, were bought up before the fall in the price of cattle took place. The price of butcher meat in the ſhambles has kept pretty ſteady through the ſeaſon; ſo that whatever loſſes have been ſuſtained, they have moſtly fallen to the lot of the grazier and the feeder; for, in conſequence of the fall of from 20 to 25 per cent. in the price of ſheep and lamb ſkins, and from three-halfpence to twopence per pound in the price of hides, the butcher could not afford the ſame price as formerly. It is very fortunate for the farmer that he is not eaſily diſcouraged, otherwiſe ſuch rubs as theſe would drive him to deſperation: the ſame cheerful and animating principle invigorates his mind that gives life and ſpirit to the Chriſtian, 'and becomes as an anchor to his ſoul, both ſure and ſtedfaſt.' He knows that ſeed-time and harveſt will continue while the world laſts; and that while men remain upon the earth, they muſt have food and raiment: and, by ſteadily acting on theſe principles, though he may be diſappointed in his expectations for a little while, yet, in full *hope* of better ſucceſs in his next attempt, he commences his labour with as much vigour as if no accident had happened. And what heart can be ſo cheerleſs as not to wiſh him ſucceſs! His labours are for the good of mankind, from the king to the beggar.

'Farm-ſervants, day-labourers, mechanics, and contractors for dikes, roads, &c. being in as great demand as ever, the price of their ſeveral labours are ſtill rather advancing than otherwiſe; and this, perhaps, you will be diſpoſed to allow, is as good a criterion as any other of the progreſſively improving and proſperous ſtate of the country. No doubt, much has been done in the way of improvement, but much yet remains to

to do; and, while that is the caſe, it is to be expected that the price both of land and labour will continue to advance, till ſuch time as improvement ſhall be brought nearer to its *acmè*.'

Dumfrieſſhire Quarterly Report.

The weather, for the laſt three months, it is believed, has been unuſually mild and open over the whole kingdom. In this county it has been extremely ſo, with falls of rain pretty frequent, but not exceſſive. In dry grounds, the operations of the plough have been carried on with little or no interruption; and the ſtate of ordinary labour is now in ſuch forwardneſs, that ſo ſoon as the grounds become dry, the ſpring ſeed may generally be ſown. The quantity of wheat ſown appears greater than uſual; and what was got in within the month of October, is well rooted and healthy.

In this county, where the keeping of young cattle is an eſſential object, the general apprehenſion of a ſcarcity of fodder made the farmers ſo backward in thraſhing out their corns in the beginning of winter, that an unuſual proportion ſtill remains on hand, and the want of *keep* is not now much dreaded. The crop of barley has thraſhed out well, and equal to expectation, both in quantity and quality. This is not the caſe with the crop of oats. Farmers, from the filling ſeaſon having been warm, expected abundant returns; but to make unuſual fertility, it may be obſerved, that warmth without drought is not ſufficient. Wheat had the appearance of a great crop; but was generally affected both with ſmut and mildew. The ground, however, appears to have yielded largely as to quantity.

The cattle markets, which had fallen in autumn, quickened again in the early part of winter; and dealers to the South have come off better than was expected. They have now begun to buy ſtrong cattle, to be driven early in the next month. Turnips have been got the full uſe of hitherto, and turned out a larger crop than expected; but from frequent rains, the texture of the root muſt be ſo looſe, that if ſharp froſts were to take place, they muſt fail immediately. The earlier they are uſed or got up, the greater will be the benefit got from them. Of late, the practice of giving turnip to the ſtrong cattle intended to be driven ſouth in the ſpring, has become general. The turnips are given in the field at mid-day, and the cattle driven out of the ſtraw-yard for that purpoſe; a practice found particularly advantageous, becauſe it furniſhes the cattle with more ability for travelling than when kept cloſe in the yard.

Sheep ſtocks in the high grounds have ſuſtained no damage this ſeaſon. They are yet ſtrong and healthy, though, from the wet ſeaſon, it is feared that thoſe upon wet paſtures may ſuffer in ſome degree by the rot. From the South, we hear already of commiſſions to purchaſe ſheep from eſtabliſhed ſound farms.

Prices.—Barley in the autumn began at 5s., but ſoon came down to 4s. the Wincheſter buſhel, at which it ſtands. Wheat is now from 8s. to 10s., and oats from 2s. 6d. to 3s. Potato oats 3s. 4d. Oatmeal

2s. 8d. the ſtone. Beef and mutton from 4d. to 6d. the pound ...
dupois. Pork in the carcaſe 5s. 9d. the ſtone of 14 lib.——*Jan.* ...

Letter from Glaſgow, 27th January.

'SUCH a long and continued tract of wet weather as we have exp enced during the winter, has ſeldom been witneſſed in this part of country. Scarce can we ſay we have had a dry day during the whol the laſt three months. In conſequence of this, very little wheat has b ſown on the potatoe ground, and little out-door work carried on. fear the ground will not be in a proper ſtate for receiving the ſeed fo conſiderable time to come. Since laſt letter of intelligence, our mar has been, upon the whole, pretty ſteady.

'Our ſupplies of grain, of every ſort, have been abundant. old wheat has come principally from America *via* Liverpool; oats fr the ſouth of Scotland, and from Ireland; and barley from Norfolk, the north-eaſt of Scotland. Annexed you have a ſtate of our marke

State of Glaſgow Markets, 27th January.

Dantzic Wheat	44s. to 47s.	per boll Linlithgowſhire meaſ
Foreign Red do.	38s.—44s.	
Scotch do. (Old)	43s.—44s.	
Do. do. (New)	38s.—41s.	
Engliſh do.	42s.—44s.	
American do.	45s.—47s.	do. of 240 lib.
Iriſh do.	36s.—40s.	
Iriſh Mealing Oats	22s.—23s.	do. of 264 lib.
Do. Inferior do.	18s.—20s.	do. Renfrewſhire meaſure
Scotch Potato do.	24s.—26s.	
Do. Small do.	18s.—20s.	
Engliſh Potato do.	none.	do. Stirlingſhire do.
Do. Small do.	do.	
Engliſh Barley	36s.—38s.	do. do. do.
Scotch do.	28s.—30s.	
Iriſh do.	30s.—00s.	do. Renfrewſhire do.
Engliſh Beans	none.	do. Stirlingſhire do.
Scotch do.	24s.—27s.	
Engliſh Grey Peas	none.	do. do. do.
Scotch do.	22s.—24s.	
Scotch Oat-Meal	23s.—24s.	do. of 140 lib.
Iriſh do.	none.	
Fine Flour	66s.—68s.	Sack of 280 lib.

Kincardineſhire Quarterly Report.

THE heavy rains that we had in the end of November and begin of December, have been ſucceeded by a tract of the mildeſt open ther ever remembered, but accompanied by ſome of the fevereſt ga wind experienced in this country. The open weather has allowed ing operations to be got forward in ploughing, carting of dung, up dunghills, &c. &c.

Markets for grain have been briſk in demand, and of late pretty in price. Wheat, 40s.; Barley, 27s.; Bear, from 22s. to 2...

Potato Oats, 23s.; Common Oats, from 18s. to 19s. per boll. A conſiderable quantity of grain has been ſhipped for different ports in England and ſouth of Scotland.

The crop has turned out better than was expected; but by no means equal to laſt crop; and had not the diſtillers in the Frith of Forth taken off a great quantity of bear, I ſuſpect much of it muſt have remained on hand, as it was of a very inferior quality.

Cattle markets have been ſtationary, and, unleſs for fat cattle, there has been no demand. Sheep have declined in price, although in the butcher market they ſtill keep up the price of meat. Horſes, particularly good ones for draught, are ſcarce, and high priced.——*Jan* 27.

Dumbartonſhire Quarterly Report.

DURING the months of November and December, a moſt extraordinary quantity of rain fell, uninterrupted by almoſt any interval of fair weather. Since January commenced, although there has been very little froſt, the rain has been in moderate quantities. Such a long tract of ſouth and weſt wind has not occurred in the memory of the oldeſt perſons here: it having blown from theſe points, with little variation, ſince the thunder ſtorm on 9th July laſt, till now, except fourteen days of fine dry eaſt wind in October. This long continued wetneſs has been very puzzling to the wheat ſowers. Much of that grain has been ſown in an unſatisfactory manner; and much has not been got ſown at all. The braird, at preſent, does not ſeem to have ſuffered much, except on ſome wet ſpots where it failed from the rotting of the ſeed. The open winter has been favourable for ploughing, which, in ſeveral places, is well advanced; but many farmers here do not ſeem to be aware of the advantages reſulting from this practice. It muſt however be confeſſed, that our ſituation is unfavourable for early ploughing; the wet, high, and hanging lands here, being ſeldom in a fit ſtate to receive the plough with advantage during the winter months; and it is proper to be guided by experience in aſcertaining how far it may be carried with advantage.

The crop now in hand turns out as well as could be expected, from the ſtate of the weather in harveſt, and the latter part of ſummer. The quantity will come up to an average; but the quality is inferior to the grain of laſt year. Wheat is lighter, by ſome pounds, in the firlot, and thicker in the ſkin; but in other reſpects generally ſound, and free of ſmut. Oats yield only from fourteen to fifteen pecks of meal from the boll. The cattle markets have not been briſk of late, either for fat or lean ſtock. During the laſt month of the year, vaſt flocks of ſheep were driven from the Highlands, which glut the markets; and this muſt not only continue, but will increaſe. Hitherto the demand for ſheep from the ſouth, to ſtock the new ſheep farms in the Highlands, has taken many from the market of conſumption; but when theſe demands for ſtock ceaſe, and the Highlands begin to pour forth their increaſed annual ſtores, the price muſt be reduced. This ſeems to point out that the farmer's increaſed attention ſhould be directed to the raiſing of the moſt valuable grain, as the beſt means of diſcharging his rent and other increaſed demands.

Markets for grain have continued pretty ſteady during laſt qua The wheat raiſed in this diſtrict is ſold in Glaſgow, as there are flour-mills nearer. Notwithſtanding of the extenſive ſale and conſu tion of every kind of grain in Glaſgow, it is a fact hardly to credited, that there is no ſuch thing as a regular market eſtabliſhed the ſale of grain there, either in bulk or by ſample. This neg ſhould be ſpeedily remedied by the magiſtrates, as unworthy of ſu place; elſe many ſmall towns in Scotland will get before it, in a obvious and neceſſary improvement.——*Jan.* 27.

Letter from a Gentleman near Langholm, Jan. 27.

'The weather, during the laſt quarter, has been remarkably and open; and a greater quantity of rain has fallen during the pr winter, than I have ever witneſſed. Indeed, there have been very intervals of dry weather ſince Martinmas, except a few frofty days a the beginning and middle of the preſent month. The ſoil beir completely ſaturated with water, has prevented the operation of plo ing from being ſo far advanced as might have been expected in ſuc open ſeaſon. The turnip crop, a great part of which is now conſu has been got without much loſs; but the fields have been greatly poa where the crop was carted off, from the wet ſtate of the ſurface. T let for feeding ſheep have fetched high prices per acre. The y clover plants had a very promiſing appearance at the end of autu but they have been much injured of late, eſpecially on wet ſoils, t thrown up to the ſurface, owing to the ſudden tranſition of the wea from heavy rain to ſevere froſt, in which ſituation a number of muſt periſh.

'Our grain and meal-market has remained pretty ſteady d winter, the ſupply having kept pace with the demand. The cro general, may be reckoned equal to an average, though it has not anſwered our expectations from its bulk in the ſtack-yard. which was generally a deficient crop, has, however, not riſen mu price, owing to the mildneſs of the ſeaſon; though a greater propc of black cattle have been kept as winter ſtock than uſual, the de for theſe having been very low at Martinmas.

'Though the tops of the hills and high lying grounds are at pr covered with ſnow, yet the ſheep ſtocks have at no time during w been pinched with hunger; but from the heavy rains to which have almoſt daily been expoſed, they are not generally in ſuch a t ing condition as they have frequently been at this period of the y even during a harder winter. If the ſpring ſhould not turn out fa able, ſome loſs may be expected.

'The wool trade, ſince the uſual channel of conveying our m factures into the Continent, by way of Hamburgh, has been cl has received a very conſiderable depreſſion; and the dealers in thi le ſpeak of heavy loſſes they are likely to ſuſtain. From the gr mand and high prices given for wool for ſome years back, the v heep, particularly thoſe of the Cheviot and fine wooled kin

greatly advanced of late. It is to be feared, however, that ſtock of this kind may experience a ſimilar depreſſion in conſequence. But the landlord, and the tenant likewiſe, it would appear, proceed on a different ſuppoſition, namely, that things ſhall go on in a regular, or rather accelerated progreſs of advance, for rents continue uniformly to riſe on the expiry of every leaſe.'

Inverneſſſhire Quarterly Report.

THE winter quarter, now nearly at a cloſe, though rather wet, has proved uncommonly mild; and, except two days of ſlight froſt and ſnow, which even did not interrupt ploughing, the weather anſwered for executing every branch of field work ſucceſsfully. As may be expected from theſe circumſtances, turnips are ſhooting rapidly; and if a check is not afterwards met with, it will be neceſſary to take them out of the ground, ſo as green ſpring food may be obtained. Farm labour ſeldom was in ſuch a forward ſtate; and provender of every kind is plentiful. As for hay, no ſales can be made; nor is it likely that any demand of conſequence will ariſe during the enſuing quarter, the moſt of people being fully ſupplied.

Wheat and barley yield tolerably well, and, both in reſpect of quantity and quality, may be rated as equal to an average of years. Oats, however, are defective, and yield leſs meal than uſual. The demand for grain has been ſteady, and at decent prices. Wheat ſtarted at 30s., then to 35s., and ſome as high as 40s. per boll, which is about 7 *per cent.* more than four Wincheſter buſhels. Barley 25s. to 28s. per boll of 6 buſhels, with the addition of the above per centage; and Oats 20s. to 27s. per boll of 7½ buſhels, and a proportional per centage. Oat-meal 24s. per boll of nine ſtone Dutch; and Barley-meal 18s. per boll of ten ſtone. The butcher market is well ſupplied with Beef and Mutton, at 5d. and 6d. per lib. Labourers wages, ſince the commencement of the Caledonian Canal, have got out of all bounds. Ordinary hands juſt now are getting 2s. per day; and in a few weeks 2s. 6d. and 3s. will be given. The excavation of that great national work goes on briſkly; but, as uſual, at this ſeaſon of the year, nothing is done at the locks.——27*th Jan.*

Morayſhire Quarterly Report.

AN unuſually open and mild winter, ſo far as is paſſed, has, in the dry ſoils of this county, permitted farm labour to be carried forward with very little interruption, while our marſh and clay ſoils are much ſoaked, and would have reaped more benefit from froſt and ſnow; but the ſeaſon has been favourable to a very important branch of our agricultural ſyſtem,—wintering of ſtots for the grazier. From the great abundance of foggage, plenty of ſtraw, and a good crop of turnips, our farmers are enabled to do them every juſtice; and as this part of their buſineſs is now well underſtood, and carefully attended to, dealers, in the month of April, will find a greater number of prime cattle, than was ever before ſhewn in this quarter.

The price of wheat ſet in, about the 10th of laſt month, in general,

at 35s. per boll; and this article, of good quality, has continued in demand at that; in ſome inſtances, at higher prices. Barley was readily bought ſome weeks ago at 22s. 6d. to 23s. 3d. per boll, money; and on bargains at time, for 25s. to 26s.; but ſince the report of diſtilling from ſugar went abroad, few ſales can be made; and if this meaſure is tolerated, inferior quality, at any rate, muſt remain a perfect drug on the grower's hands. Oats ſell readily at 21s. to 22s. 6d. per five firlots, money; and ſome parcels have given 24s., Whitſunday payment, deliverable in a month or two hence.

We are going on in rural and local improvements with conſiderable ſpirit in this county; beſides the private efforts of numerous individuals in this way, among which may be mentioned the drainage of the Spynie Lake, ſaid to be now reſolved on by the noblemen and gentlemen proprietors, by which a thouſand acres will be reclaimed, we have to announce the completion of one ſtage of the intended turnpike road, twelve miles from Elgin to Forres, which the Truſtees propoſe to open for public accommodation on the 20th of March; and they will afterwards no doubt proceed with the other parts of the road, ſo as the chain of turnpike may be continued unbroken from London to Inverneſs. Our croſs roads are alſo daily improving, under the direction of commiſſioners for the commutation act; ſo that, in a few years, the county of Moray will poſſeſs what it has ever been in want of, the comfort and convenience of good roads.

Connected with theſe, and of infinite importance to the agricultural and commercial intereſt of this diſtrict, is the rapid progreſs making with the new harbour of Burghead, the general utility of which, government are ſo ſenſible of, that, with a liberality which reflects the highest honour, public aid to a conſiderable amount has been granted to the proprietors. Thus patronized and encouraged, they will probably, in the enſuing ſummer, have completed the beſt harbour (Cromarty excepted) in the Moray Frith; and for wind-bound veſſels, in many inſtances, inferior to none. The facility hereby afforded for ſhipping grain to the ſouthern markets during winter and ſpring, which was impoſſible from any of our other harbours, is an advantage of high importance to the agriculture of the county.

The damage done by the hurricane of Chriſtmas day, to roofs, full hay and corn ricks, was conſiderable; but, compared with the awful effects it produced at ſea, on this coaſt, was nothing.

The mildneſs and calmneſs of the morning tempted ſeveral boats to the fiſhing; on their return about noon, the gale had increaſed to a furious height, that in ſpite of the moſt ſtrenuous exertions the crews of three boats (twenty-one men) belonging to Stotfield, to the wives and children, and within one mile of their homes periſhed! This dreadful calamity has ſwept away *every perſon* aid the poor remaining ſufferers, whoſe numbers and miſery call on the liberality of the opulent and humane, in every quarter, for ance and relief. On the ſame tremendous day, periſhed three

of Burghead in a boat, within a few yards of the ſhore. Thus, are twenty widows, with children, and aged men, amounting to ſixty perſons, by this diſpenſation, thrown on the bounty of the public. Their peculiar habits now rendered uſeleſs to them, alſo unfit them for any other branch of induſtry, by which they might procure the neceſſaries of life. It is hoped that a caſe of ſuch extenſive and poignant diſtreſs will move every liberal mind to contribute to the fatherleſs, and thoſe that have none to help. Donations for this benevolent purpoſe will be thankfully received, however ſmall, and faithfully applied, if paid in to the hands of Meſſrs Conſtable & Co., bookſellers, Edinburgh; or to the Reverend Mr Lewis Gordon, miniſter of Drainie, near Elgin.—— *28th January.*

Eaſt-Lothian Quarterly Report.

The uncommon wetneſs ſince the thunder ſtorms in July and Auguſt, has been remarkably unfavourable to the huſbandry of this diſtrict, a greater part of which is kept under the plough, than of any other diſtrict in Scotland. It was ſtated in the November report, that the ſummer fallows were imperfectly cleaned, the ſeed proceſs of wheat retarded, and field work of every ſort behind; and it may now be added, that the ſtate of the weather afterwards, furniſhed few opportunities, either of correcting former defects, or executing the ſeveral operations which, in a particular manner, belong to that ſeaſon of the year. The ſowing of wheat went on ſo long as it was in any ſhape practicable, though many fields were neceſſarily reſerved till the ſpring months. A larger quantity will therefore be ſown in February and March, ſhould the weather be propitious, than has been attempted ſince ſpring 1800, when one half, at leaſt, of the wheat-ſeed in this county was accompliſhed.

To ſpeculate upon the probable conſequences of ſix months wet weather to the huſbandry of Eaſt-Lothian, might furniſh amuſement to ſome, were this the proper place. Suffice it to ſay, that whatever may be its effects upon the next crop, undoubtedly the condition of the ground will, in nine caſes out of ten, be thereby conſiderably deteriorated. The wheat lands muſt be injured ſeverely by the wet and imperfect harrowing too often given, while the arable land of every kind which received a furrow, was thereby neceſſarily more or leſs damaged. The extent of theſe evils will, in a great meaſure, be regulated by the weather afterwards; for a good and genial ſpring and ſummer might ſave the ſeveral crops, while a year or two of dry weather would admit ſuch huſbandry to be executed, as would reſtore the ground to its uſual condition. Be theſe things as they may, the general wetneſs has, in the mean time, occaſioned a loſs which can hardly be remedied. It ſubjected the arable farmer to heavy expenſes, in ſupporting his working ſtock, while little benefit was derived from their labour; and, what is worſe, it occaſioned double fatigue to them when employed, by which their condition was impaired, and their value conſiderably leſſened. In ſhort, wet weather is highly deſtructive to the arable farmer, and brings evils

along with it, not to be averted altogether by the moſt dexte try; though, undoubtedly, by a ſedulous attention to circ they may be leſſened, and partially obviated.

The grain market has kept pretty ſteady in point of den prices have advanced, at leaſt thoſe of wheat, from ten to f *cent.* Barley, though not plentiful, continues a heavy article, are in requeſt more for the London and other markets, than conſumption. Stack-yards are tolerably thinned, being much than laſt year at this time. From this circumſtance, it may b that markets will ſoon look up, becauſe importation can only l ed upon a contracted ſcale, and eſpecially becauſe the waſte an tion exerciſed on the Continent, muſt, whoever prevails, leſſe from the uſual parts, even allowing that the allies are comp ceſsful.

Fat cattle have, ſince laſt report, rather declined in pric owing to the fall upon hides and tallow, which may be con ſixpence per ſtone of the animal. Sheep, however, have ſu tained former prices; thoſe fed on turnips, already markete yielded a decent profit. It deſerves remark, that ſheep, for tu were cheaper purchaſed than cattle; therefore a better retu feeder was a neceſſary conſequence, eſpecially when it is conſi the former are uſually reckoned the moſt profitable ſtock. The je& of cattle-feeding, is to produce dung, an article juſtly re the ſheet-anchor of a corn-farmer; and though the profit this be leſs in the firſt inſtance, and gained with greater trouble an yet ultimately this practice may turn out more profitable an geous than the other.

Land-rent, as appears from recent ſets, continues on the inc when it is conſidered that, under the act of laſt Seſſion, th part of this diſtrict will be rated at two ſhillings and ſixpence, at five ſhillings per acre, to the Property-tax, the general ſituat mers will not be viewed as enviable. In fact, the occupati exiſting circumſtances, may be characterized as one eminentl ous. Should the nation increaſe in proſperity—ſhould money to fall in value, and the prices of produce *nominally* advance, farmer may maintain his place in the ſcale of ſociety. But i tional affairs take a retrograde courſe—ſhould trade decreaſe, a advance in value, circumſtances all within the verge of p then the value of produce will inſtantly be depreciated, and t educed to a ſtate of bankruptcy, ruin, miſery and woe.——

ENGLAND.

Letter from a Gentleman in Lincolnſhire, 20th Januar

'I HAVE little intelligence to give you of agricultural matt han that our fine drainage works begin now to ſhew themſe ne end will do great credit to Mr Rennie, the engineer, a

moſt complete drainage that ever was made in Lincolnſhire, and perhaps in England. I have been a commiſſioner in many drainages; but the proprietors never would ſuffer us to raiſe money ſufficient to dig deep enough through the old encloſures into the ſea, before; and, notwithſtanding the excellency of Mr Rennie's plan, we have a party of uninformed people, headed by a little parſon and magiſtrate, who keep publiſhing in the newſpapers to ſtop the work, and have actually petitioned Sir Joſeph Banks, the lord of the manor, againſt it; but he anſwered them with a refuſal, in a moſt excellent letter, a copy of which will probably be ſent you afterwards.

'Prices of corn and meat may be conſidered as good. Wheat, 64s. to 76s. per quarter; Barley, 38s. to 42s.; Oats, 21s. to 30s.; Beans, 32s. to 42s. Beef, 7s. per ſtone, ſink; Mutton, from 6d. to 7d. per lib., prices rather increaſing; Pork, about from 6s. 6d. to 7s. per ſtone of 14 lib.

'I think Mr Rennie's great work will promote another general improvement here, that is, to deepen and enlarge the river Witham from the ſea, through Boſton and Lincoln, to the Trent, ſo as to admit of a communication for large veſſels, as well as laying the water ſo much below the ſurface of the land as to do away the engines. We have got an eſtimate, and find the coſt may be about 100,000l.'

Letter from a Yorkſhire Farmer.

'THE weather was ſo extremely wet during the months of November and December, that little buſineſs could be done in the fields, except ſowing ſome wheat upon dry ſoils after turnips. This mode of huſbandry is now practiſed to a great extent, and, by conſuming the turnips early, anſwers very well. We had a remarkably fine autumn, and the ſeed wheats were ſeldom got into the ground in better order; the ſeaſon continuing ſo very warm and moiſt, that upon good dry land, the plants have got too luxuriant, and ſpent too much ſtrength before winter. Upon cold, wet land, the plants are very weak and ſickly. But dry weather ſet in with the New Year, and ſome gentle froſts have ſeaſonably checked both wheat and turnips, the latter of which were running into the ſeed ſtalk. The weather has been ſo very open, that great part of our lean cattle continued in paſture till the beginning of this month, as the graſs kept growing upon rich good land. Our markets are plentifully ſupplied with both beaſts and ſheep, particularly the latter. Cattle ſell at 6s. 6d. to 7s. per ſtone of 14 lib. ſink; Sheep, 6½d. to 7½d. per lib. do. This county appears to be full of fat ſheep. The high price of mutton has encouraged the ſtock-maſters, to increaſe their numbers, and the laſt year's profits to the grazier, induced every one to buy a larger ſtock than uſual for turnip feed; and, notwithſtanding the favourable winter, moſt people find themſelves overſtocked, and, of courſe, the markets are abundantly ſupplied, which cauſes a heavy ſale, and gives the butchers large profits. We have not had the leaſt ſnow, till this preſent evening. It is now falling, and has covered the ground.

'O

ur corn markets continue pretty ſteady. I believe fine wheat
:r at Wakefield and the neighbouring markets, than in any oth
f England, the beſt not being worth more than 9s. the Winche
ıſhel. This article is expected to advance by ſome of our factor
count of the great devaſtation and waſte committed on the Cont
by the contending armies. But our crop is great, and yields we
r the flail, which will prevent the neceſſity of importation; anc
ıably, the ſpeculators may be diſappointed. Barley, oats and bear
e plentifully to market, and their prices are upon the decline. Ba
from 4s. 6d. to 5s. 3d. per Wincheſter buſhel; Oats, from 3s. t
9d.; Beans, 5s. 3d. to 5s. 9d.

Eſſex Quarterly Report.

THE winter quarter has hitherto been remarkable for the great ten
rnture of the weather, as well as for the great quantity of rain whic
as fallen. We do not recollect to have had one froſt in the month c
December, which was by many farmers rather wiſhed for, as the flu
ıas made conſiderable depredations upon the young wheats, althougl
ıpon the whole, we may report thoſe plants to be in a flouriſhing con
dition. At the commencement of the New Year, a ſharp froſt ſet i
for a few days, which was eagerly embraced by every agriculturiſt fo
carting manure upon the young clovers, which had not been accom
pliſhed before Michaelmas. *Winrows* alſo, which had been dug up
were drawn on thoſe lands intended for fallows, &c.; and in a fe
weeks we ſhall be buſily employed in ſowing beans. Our wheat, w
hope, is not leſs deficient than laſt year. Barley riſes well upon ſon
ſoils, and upon others as bad. We know an inſtance of two farme
who, were they each to give an account of the produce of their o
lands, would greatly differ, although the diſtance may not be five m
apart: the one would tell you, his would average about ſeven quar
per acre, the other about three. Peas and beans were not more t
half a crop; oats yield a tolerable quantity. Our markets have
much lower for barley, ſince the queſtion reſpecting the diſtillation
ſugar has been agitated. At Braintree market, laſt week, this a
ſold from 35s. to 39s. Trefoil and clover are amazingly dull. S
are ſcarce. The jobbers aſk as high as 36s. for ordinary ewes
ſtock of all kinds are dear. There is a great demand for ſtra
litter; and, in ſome parts of this county, it is ſold as high a
and upwards per pound weight, after being manufactured. T
the caſe where the manufactory for ſtraw bonnets is carried on,
in ſome places, is an extenſive trade. This morning the gro
ſlightly covered with ſnow, which is the firſt we have ſeen thi
but it has now all diſappeared.——*Jan.* 23.

Norfolk Quarterly Report.

THE harveſt having been finiſhed early, and the ſucceedi
proving extremely favourable for ſowing wheat, that crop w
the ground in excellent time, and in fine condition. It has
proud and healthy appearance; and no fears can be entertа
except ſuch as may ariſe from a ſuſpicion of too thick a pla

vetches, from the ſame cauſe, are very flouriſhing. The turnip alſo begins to exhibit ſymptoms of a rapid increaſe of top; and though far from a good crop, will in all probability be found fully adequate to the maintenance of the ſtock of the county, which is not ſo numerous as uſual, the farmers, from the well aſcertained deficiency in the quantity of ſtraw, and from an apprehenſion that the turnips will not prove at beſt an average crop, having been cautious in purchaſing both ſheep and bullocks. But ſuch has been, ever ſince harveſt, and ſtill is, the unuſual verdure of the county in general, that the turnip was not early reſorted to, and even but partially, till very late in the ſeaſon.

Wool is improving in value; an object of importance to many of the Norfolk farmers; the buyers and ſellers differing ſo materially at the Thetford wool fair, that few ſales were effected. The wheat crop is fully an average one; a plentiful ſtock appears to remain in hand; the price has been ſteady, and, by reaſonable minds, muſt be deemed good. Barley will prove more productive than was expected, and may average three quarters per acre. This article has lately declined in price; but owing to what cauſe is difficult to ſtate. Moſt of the few ſtacks which adorned the fields immediately after harveſt have diſappeared, and the quantity in hand certainly cannot be great: perhaps the idea that ſugar will be uſed by the diſtillers as a ſubſtitute for it, may have had ſome effect. The pea crop is miſerably defective, particularly the white, and more particularly ſtill the pearl, which is much in faſhion in this county, from its proving univerſally a good *breaker;* in time of war, a very material conſideration. It will not average more than twelve buſhels per acre. The grey may perhaps reach 2½ quarters, or 20 buſhels. The farmer, however, notwithſtanding the deficiency in the pea and barley crop, will not, it is hoped, find the balance of account againſt him.——23. *Jan.*

Letter from a Farmer in the Eaſt Riding of Yorkſhire, Jan. 24.

'From the date of my laſt letter till the 16th or 17th November, the weather continued very fine and dry; the wheat ſowing being finiſhed in as complete order as ever remembered in this diſtrict; and every operation uſually executed at that ſeaſon of the year, was got into a forward ſtate. The wheat fields look more luxuriant than I ever ſaw them in the month of January, not having received a check by froſt till about a fortnight paſt, and that but ſlightly. The rainy, warm weather we had from the middle of November till the firſt week in January, kept up vegetation in a high degree. Snow, we have had none yet. The turnip crop having failed in ſo many inſtances, as to have enhanced the value of that root more than was expected, and as the ſheep graziers cannot be ſupplied with a ſufficiency for their flocks, they are thereby obliged to drive them to market; and, in ſome inſtances, they are ſold for an advance in price of only 2s. per head from September laſt. Six guineas per acre is given for very indifferent crops of turnips; and 9d. per week is aſked, and I believe given, for *boggets*. Our grain ſeems to turn out as was anticipated: wheat good in quality; oats light; barley

barley thin; and beans ſmall and ſhrivelled. Prices for Wheat, 70s. to 74s.; Oats, 20s. to 26s.; Barley, 35s. to 39s.; Beans, 36s. to 38s.—all per quarter. Fat cattle are now worth 7s. 6d. per ſtone, ſink, which will not do for thoſe fed on linſeed cake: it cannot be bought for leſs than thirteen guineas per ton, and much of it is uſed in this neighbourhood Sheep 6d. to 7d. per lib. ſink; Veal, 8d. per lib.; fat Pigs, 6s. 6d. per ſtone.

'Flax has turned out a bad crop, large quantities being almoſt unworkable. It is ſhort, and not having more than 10 to 15 and 20 ſtone per acre; 40 ſtone per acre is a rarity. There are many inſtances of 8 guineas per acre being given for land to ſow with this crop; and the produce being not more than 20 ſtone per acre, and ſold at 13s. to 13s. 6d. per ſtone, the reſult is high prices. Large tracts of land are to be ſown with it this year.

'This diſtrict is not one of thoſe that affords many inſtances of rural improvements on an extenſive ſcale; in fact, there are none that you are not previouſly informed of, except a gradual one of cultivation in general.'

Letter from a Gentleman in the County of Kent, 25th January.

'I HAVE received the Numbers of the Farmer's Magazine perfectly regular, except the laſt, which has not reached me, and am highly indebted to you for them. From the mild open winter we have experienced, the farmers have not been enabled to carry out their manure for beans; and the ſpring feed ſeaſon will neceſſarily be very backward. The wheats on the ground look well, in general, on moſt ſoils in this diſtrict. The yield of the laſt crop of wheat, conſidering its bulk, is better than was at firſt expected. The laſt markets were as under.

Canterbury, January 10.	*Ditto, Jan.* 17.	*Maidſtone, Jan.* 15.
Wheat (brown) 80s. to 86s.	80s. to 86s.	Wheat 78s. to 91s.
Do. (white) 75s. — 90s.	80s. — 92s.	
Rye - - - 46s. — 50s.	46s. — 50s.	
Barley - - 38s. — 45s.	38s. — 44s.	— 38s. — 47s.
Oats - - - 30s. — 38s.	30s. — 38s.	— 28s. — 41s.
Beans - - - 42s. — 44s.	40s. — 42s.	— 42s. — 52s.
Ticks - - - 45s. — 48s.	44s. — 46s.	
Hog Peas - 48s. — 50s.	46s. — 50s.	— 42s. — 50s.
Boilers - - 75s. — 85s.	70s. — 80s.	— 60s. — 78s.
Tares - - - 56s. — 66s.	56s. — 64s.	
Malt - - - 92s. — 94s.	92s. — 94s.	*Sandwich, Jan.* 21.
Hay, per ton, 4l. to 4l. 5s.		Wheat 74s. to 88s.
Sainfoin - 4l. 10s. to 5l.		Barley 38s. — 40s.
Clover - - 3l. 10s. to 4l.		
Oat Straw - 2l. 5s.		

'*Canterbury Butcher Market, January* 18.

Fine Flour 71s. per ſack.
Rough Meal, 40s. per ſack.
Beef, 11s. 6d. to 13s. per ſcore.
Mutton 5s. 4d. to 7s. 6d. per ſtone.

Aſhford,

'*Aſhford, January* 20.

Beef, 128. to 138. 4d. per ſcore.
Mutton, 5s. 4d. to 5s. 6d. per ſtone.
Fat Pork, 13s. 6d. per ſcore.
Freſh Butter, 1s. 6d. per lib.

'The hop duty for 1806 is 253,558l. 2d. The old duty, therefore, is about 145,795l.'

Letter from Lynn, 25th January.

'OUR markets are now well ſupplied with all ſorts of grain, except white peas; and we have a pleaſure in obſerving, that the quality of the wheat has turned out far ſuperior to any expectation of ours. Indeed, we think it equal to that of moſt years, and have no doubt but the beſt runs will average from 59 to 60 lib. per buſhel. The preſent price given to the growers is from 70s. to 72s.; and fine ſamples 74s. per quarter. Barley, though not ſo heavy as laſt year, is of good malting quality, the price now very low, no more than 34s. to 35s. per quarter, in conſequence of every conſumer of this article holding off buying till it is known whether ſugar and molaſſes will be ſubſtituted in lieu of grain by the diſtillers and brewers. We think this ſubſtitution never will take place, as government would be ſuch ſevere ſufferers in the malt-duty. So ſoon as the Houſe of Commons have come to a determination, we have no doubt barley will advance, though at preſent it is a drooping article. When there is the leaſt appearance of advance, all will hold off ſelling; though, at this time, the growers are certainly forward in thraſhing. White peas cannot be bought under 80s. to 82s. Grey peas 40s. to 42s. per quarter, very fine quality. Beans do not yet come hard to market, and are bought at 36s. to 38s. Oats vary very much; the great ſupply is ſo light as 30 and 32 lib. per buſhel, which are bought at 20s. to 21s. per quarter, and thoſe of 33 to 34 lib. per buſhel at 22s. to 23s. per quarter. A middling ſupply of 35 lib. per buſhel at 23s. to 24s., and a few appear ſo heavy as 36 to 38 lib., which are bought at 26s. to 28s. per quarter. The meat market has been pretty well ſupplied. Beef ſells at 7s. 6d. per ſtone of 14 lib. ſink; Mutton at 8s. 9d. per ſtone; Veal 9s. 4d. per ſtone; and Pork 8s 9d. per ſtone.'

Yorkſhire Quarterly Report.

THE produce in the barn from wheat of laſt year turns out tolerably good, though the ſample is not perfectly free from dampneſs in the hand, occaſioned by the very ſhowery weather prevalent during the greater part of harveſt. The intervals of fair days were not ſufficient to dry the grain completely; yet moſt of the ſamples are moderately ſaleable.

Barley yields thinly under the flail, and is now ſelling at a price by no means adequate to the deficiency. This probably may in part be attributed to the enormous quantity of ſugar on hand with the merchants, which, for want of a market, muſt be converted into drink or *poiſon* of ſome ſort or other. Rye, oats, and beans and peas, turn out rather more than an average produce.

The preſent market price of grain, in general, is too low for the grower,

grower, all circumſtances conſidered; and if we may preſume, from the uncommon fineneſs of the winter hitherto, that any ſmaller proportion of grain is now actually thraſhed out, than is uſually the caſe at this time of the year, there may not be much reaſon to expect an improvement. The beſt wheat is about 9s.; Rye 5s. 6d.; Barley 5s. 3d.; Oats 3s.; Beans and Peas 5s. 6d. per buſhel of Wincheſter. Potatoes are abundant, from 1s. 6d. to 2s. per buſhel, upheaped.

A conſiderable proportion of our arable land is now covered with wheat, growing with the greateſt luxuriance, in general, on all ſorts of ſoils: perhaps ſome of them have grown too much, from the continual rains of the early part of the winter, and the uncommon mildneſs of the weather at the preſent period.

Some flocks of ſheep have ſuffered partially from the rot, but by no means to the extent apprehended by many, the rains falling *late* in the ſeaſon. The wethers fattening on turnips are now thriving faſt; during the heavy rains before Chriſtmas they gained but little fleſh. Though without any cover of ſnow, the turnip crops are not materially injured by froſt; but in the forward ſandy ſoils, they are faſt running to ſeed, and, conſequently, will not ſerve *late* in the ſeaſon.

Fat and lean cattle are as moderate in price as for ſome time paſt; ſheep dearer. Store pigs are alſo high. Beef, mutton, and pork, 7d.; veal 8d. per lib. Horſes are nearly the ſame as laſt reported.—*Jan.* 25.

Northumberland Quarterly Report.

For the laſt quarter, the weather has been one of thoſe ſingularities that will be often quoted in after times, as probably few perſons remember ſuch another ſeaſon, and particularly that part which comes under the denomination of winter, there having been only three days of froſt, and thoſe at three different times ſince the beginning of December, and without the leaſt fall of ſnow. The month of December was remarkably wet, there being ſcarcely two fair days together, and on the 25th a moſt violent hurricane of wind, that did much miſchief; but, during the whole of this period, except the ſmall portion of froſt above mentioned, the air was ſo mild, that vegetation proceeded with the ſame vigour as is frequently obſerved in October; and the graſs lands continued to ſupport a greater quantity of ſtock than was ever experienced at the ſame ſeaſon, which has been a great ſaving of fodder of every deſcription.

The ſame mild temperature of air that produced ſuch vegetation in the graſs, has been equally friendly to the autumn-ſown wheats, which, on all deſcriptions of ſoil, have a moſt favourable appearance, in every part of the county; and, it may be added, that the writer of this report, in a recent journey through the midland and ſouthern counties, every where obſerved a ſimilar appearance.

The turnips that were ſown late in the ſeaſon, after the firſt ſowing had been deſtroyed, and which were expected to get only to a ſmall ize, have, from the ſame cauſes which produced ſuch verdure in graſs and wheats, gotten much larger than was expected, and will ſome meaſure make up the deficiencies of thoſe crops that came up [illegible] ti[illegible]

tially, or at two growths, and which occupy a very conſiderable portion of the turnip ſoils of this county. The crops upon good lands were never better; upon moiſt lands and ſtrong loams, the ruta baga was ſtarved, and of courſe ſtunted in its growth. On all ſuch ſoils the crop is very deficient. Potatoes are in general good.

The ploughing for the next ſummer's fallows, as well as for ſpring ſeeds, is in great forwardneſs; and the lands that have been cleared of turnips are now ſowing with wheat. Markets are much the ſame as in the laſt quarter. —— *January 25th.*

Letter from London, January 26.

'NOTWITHSTANDING the interruption to our foreign ſupplies of grain, the market has been ſo well filled with wheat and oats, ſince our laſt report, that prices have been on the decline. This, we think, is not owing to the crops having turned out better than had been calculated upon, but from the increaſing quantity of land taken into cultivation. With regard to wheat, our ſtock is plentifully kept up by ſupplies from the coaſt, in addition to the uſual neighbouring channels; and the condition of the grain, from the moiſtneſs of the ſeaſon, is ſo ſoft, that our millers are diſcouraged from laying up any great ſtores. The ſales are therefore heavy; and we can only look to a riſe in the price of wheat, in caſe of a material falling off in our ſupplies. The idea which has been prevailing, that ſome relief would be given to the Weſt India trade, by allowing the brewers and diſtillers to uſe ſugar and molaſſes, has cauſed a conſiderable dulneſs in the ſales of barley and malt, which they have only in a ſmall degree recovered from, now that this expectation is nearly given up; the ſupplies of theſe articles being very liberal. Indeed, we do not remember to have ſeen our market ſo full of grain in general, as it has been from the commencement of the New Year to this time. Our annexed quotation for oats is at a reduction of two or three ſhillings within this laſt month, which is to be attributed ſolely to large quantities from the coaſt. If theſe can be continued, no advance in price need be looked for; but as our conſumption will, from this time to the ſummer, be on a large ſcale, it is reaſonable to expect the deprivation of foreign arrivals will be felt.

'The ſtock of clover-ſeed on hand is conſiderable; but as the laſt crop failed materially, a greater demand may be expected upon this market, than for two or three years paſt: indeed, prices have already advanced. Still, much will depend upon the event of the violent ſteps with regard to the commercial intercourſe of the Continent with this country being departed from or not. The ſupply of grey peas has been larger than was generally looked for, and prices have declined; but boiling peas are ſtill looking upwards, the demand for the ſhipping being conſiderable.

'State of London Markets, Jan. 25.

Wheat - - -	56s. to 75s.		
—— White Eſſex and Kent	84s. 86s.	— 88s.	
—— Norfolk - -	68s. 76s.	— 80s.	
—— Scotch - -	68s.	— 72s.	Fine, 74s. to 77s.

Wheat,

Wheat, Northumberland -		80s.	
—— Dantzic and Zealand	65s. 80s. to	88s.	
—— Riga and Peterſburgh	56s. —	66s.	
—— Archangel -	48s. 56s. —	63s.	
—— Black Wheat -	63s. —	70s.	
Rye - - -	46s. —	48s.	
Barley - - - -	34s. —	37s.	
— — Good Malting -	40s. —	41s.	Fine, 42s.
Malt - - -	56s. 66s. —	72s.	Fine Norfolk, 75s. 78s.
White Peas . - -	68s. —	78s.	Boilers, 86s. 92s.
Grey ditto - . -	42s. —	46s.	
Pigeon Beans (old) -	46s. —	50s.	New, 42s. 44s.
Tick ditto (old) - -	40s. —	44s.	New, 34s. 37s.
Oats, Long Feed - -	22s. —	26s.	
—— Short Smalls or Friezlands,	26s. —	29s.	Fine, 30s. 6d.
—— Polands - - -	26s. —	29s.	
——— - Fine - -	30s. —	33s.	Extra, 34s.
—— Potato - - -	31s. —	33s.	6d.
Red Clover ſeed, New Engliſh	65s. 84s. —	92s.	per cwt.
Ditto ditto Old Foreign	44s. —	50s.	French, 70s. 78s.
Ditto ditto New ditto	66s. —	72s.	Ditto to 82s.
White Clover ſeed -	60s. 95s. —	105s.	
Trefoil - - -	10s. 21s. —	30s.	

Fine Flour—delivered to the bakers 70s. — 75s. per ſack.
Flour by ſhipping—no ſales made.
Hay, from 4l. to 4l. 15s. per load.
Straw, 56s. to 63s. per load.

Letter from Wales, 25th January.

'SINCE I laſt wrote you, we have had a ſucceſſion of heavy rains, and great floods; of courſe, farm-work lies far behind. Thraſhing is the principal buſineſs that has been attended to; and I believe there is more than the ordinary quantity of corn gone from the farmers. Cattle have been dull of ſale, and corn has been reſorted to, to make good our payments, which has cauſed a glut in our markets; conſequently, prices are rather on the decline. Wheat, of the beſt quality, does not at preſent fetch more than 26s. and 27s. our buſhel, of 168 pounds weight. Barley, at the firſt of the ſeaſon, was at 44s., but will not at preſent bring more than 40s. the quarter. Oats, about 23s. to 24s.; Potatoe oats (which prove far ſuperior to the oatmeal makers) go to 28s. and 30s.; Peas have been about 50s. the quarter. I have not heard of any beans being ſold. We have had no froſts to check the growing wheats, which every where look well, ſo that ſome farmers begin to cry out, it is getting on too faſt. Whether that is the caſe or not, time muſt try. Turnips, in many places, begin to run to ſeed; and many of my neighbours complain, that the ſheep on them get no better, their coats being conſtantly wet and dirty. Butcher meat was plentiful at market, for two months before Chriſtmas, and at a reduced price, but is now advanced nearly to what it was for the two or three laſt years; and both cattle

tle and ſheep that are fat, go off readily. Store pigs continue to ſell very dear; and fat pigs for bacon, weighed whole, viz. head, feet, &c. ſell at 6d. and 6½d. per pound. Butter, 14d. and 15d. per pound; Cheeſe, from 4d. to 9d., according to the quality. Potatoes are in great plenty, and will hardly pay for carrying to market. Good hay is worth five pounds the ton; but, in the courſe of my journey laſt week, about thirty miles north from this, on finding fault with the hay, as my horſe would not touch it, the landlord declared it coſt him nine pounds the ton, and that there was none to be got under that price, and that ſtraw and oats were in proportion. At the ſame time, I could not obſerve any ſpirit of improvement amongſt the farmers; but I have no doubt they will ſoon open their eyes. Their employment now ſeems to be in picking up iron ore, and keeping a few ſmall horſes to carry it to the ſides of the roads, which they ſell to the works for ready money, by which they juſt make a living. I ſpent one day with a farmer who holds near 500 acres, one half of which is well encloſed with good hedges, his rent next to nothing. He ſaid they never miſs good wheat and oats, although they ſow but very little of either; as a proof of which, he fallowed about an acre laſt year for wheat, which was all he meant to have. He had given it a good dreſſing of dung and lime, but could not ſpare as much time as ſpread either the lime or the dung;—there it reſts, ready, as he ſays, for next year. The little wheat I ſaw is looking well; and I have no doubt but, ſome years hence, that part of the country will have undergone a great change. They are now getting good roads. Indeed, the making of iron-rail roads, and building new works, ſeems to engroſs the whole attention of the monied men; when that is a little abated, it is moſt likely they will look to the ſtate of the lands round them, and raiſe provender for men and horſes at a cheaper rate than at preſent.'

OBITUARY.

Died lately, at Edinburgh, in the 70th year of his age, General JOHN FLETCHER CAMPBELL OF SALTON.

General Fletcher Campbell was the youngeſt ſon of Andrew Fletcher, Eſq. of Milton, Lord Juſtice-Clerk of Scotland, who, under the auſpices of Archibald, Duke of Argyle, managed the internal government of that country for many years, and, in 1803, on the death of his brother General Henry Fletcher, ſucceeded to the patrimonial eſtate of Salton in Eaſt-Lothian, having formerly poſſeſſed the eſtate of Bocquhan in Stirlingſhire. Deſcended from a race of eminent men, General Fletcher Campbell, gifted with talents of the greateſt celebrity, was qualified to imitate his anceſtors, and to diſcharge every public duty with credit to himſelf, and advantage to the community. He had ſtudied the book of life with minute attention, and was enabled to make remarks thereupon, which diſplayed the capacity of his mind, and the vigour of his underſtanding. As generally happens with all great characters, ſome traits of eccentricity might be diſcovered in his appearance and behaviour; but theſe rather ſerved as foils to ſet off his

benevolence and numerous good qualities, than to impair his uſefulneſs, or detract from his merits. In ſhort, the features of his mind were deeply marked, and conveyed to the beholder, on the ſlighteſt glance, full proofs of his activity and diſcernment; while his conduct or actions expreſſed an animated deſire to benefit ſociety, and improve the intereſt of thoſe with whom he was connected.

When General Fletcher Campbell ſucceeded to the patrimonial eſtate of Salton, many branches of its economy were in a diſordered and confuſed ſtate, owing in a great meaſure to the invalided condition of his brother for ſeveral years previous to his deceaſe. To remedy theſe diſorders, and improve the patrimony deſcending to him from his anceſtors, were therefore the General's firſt and earlieſt care; and in a ſhort time he accompliſhed many durable and efficient improvements. The alterations upon the manſion-houſe, and the elegant offices built by him, diſplay much taſte and judgment in architecture, as do alſo a new church with a lofty ſpire, and a ſchool and houſe for the ſchoolmaſter, built at his ſole expenſe. He had in contemplation to make many alterations in the village of Salton, thereby to beautify the property, and add to the comfort of the inhabitants, and was at the chief expenſe of building a ſtone-bridge acroſs a dangerous paſs upon the river Tyne, by which an eaſy communication is now opened for a great diſtrict of the county to the market town. He likewiſe expended conſiderable ſums in making and repairing ſundry uſeful roads in the neighbourhood, and, in ſhort, manifeſted an eager deſire to forward every ſcheme which had for its object the welfare and advantage of the public. He alſo inſtituted a club or meeting of farmers at Salton, and regularly preſided at their quarterly meetings; from which, in proceſs of time, laſting benefit might have been derived. As a ſolid proof of his deſire that the club ſhould be rendered a perpetual one, if poſſible, and not fall to pieces at the death of its inſtitutor, as has too often happened in ſimilar caſes, the General, by his laſt-will and teſtament, left *five hundred pounds* Sterling for their behoof, and the like ſum to the ſociety of farmers at Kippen in Stirlingſhire, another inſtitution which he countenanced and ſupported. Theſe ſums were conveyed to the Earl of Haddington, William Hay Newton, Eſq. of Newtonhall, and Henry Davidſon, Eſq. writer in Haddington, truſtees appointed for carrying the deed into execution, who are directed to lay out the money in the purchaſe of land, and to pay the annual proceeds to the reſpective clubs, by whom it is to be appropriated and expended in premiums for promoting and encouraging agriculture. In a word, we are at at a loſs to aſcertain, whether the merit of theſe gifts, or the wiſdom and foreſight evidenced in the mode of beſtowing them, deſerve moſt applauſe. The memory of the donor, however, is entitled to reſpect on both accounts; and the writer of this article embraces the opportunity of paying a mite of approbation when recording ſuch an uncommon inſtance of liberality and beneficence.

General Fletcher Campbell was married ſome years ago, and has left two ſons, the eldeſt of whom ſucceeds him at Salton, and the other at

Bocquhan.

Bocquhan. The two young gentlemen are under the inſpection and management of Mr William Graham, rector of the grammar ſchool at Haddington; a moſt reſpectable man, fully qualified to teach them every branch of uſeful education, and to train them up in a way which may afterwards render them uſeful members of ſociety. N.

Died at Edinburgh, on the 15th December 1806, WILLIAM LAW of Elvingſtone, Eſq. Advocate, late Sheriff of Haddingtonſhire.

This gentleman, born in 1714, was, at the time of his deceaſe, father of the Scotiſh Bar, having entered advocate in the year 1737, and probably the oldeſt Judge in Great Britain; having acted as Sheriff of the county of Haddington nearly for fifty years. In his judicative capacity, he was always regarded as a ſteady and upright adminiſtrator of our excellent laws, of which he poſſeſſed a clear and full conception; and, though rather irritable on the Bench, and diſpoſed to get warm, when people of different feelings would have remained ſilent, yet the goodneſs of his heart, and the rectitude of his intentions, were ſo well known, that he was rarely found fault with on theſe accounts. Mr Law was ſtrictly religious, and regularly attended the celebration of its ordinances. He for many years acted as elder for the Preſbytery of Haddington, in the General Aſſembly of the Church of Scotland, and was a zealous ſupporter of the politics of the ruling party. When at the great age of ninety, he was as eager to ſit out the vote as the youngeſt member of the houſe; and the charge of inconſiſtence and verſatility could at no time be applied to his conduct. He always meant well; and the moſt violent of his opponents had not a ſhadow of reaſon to challenge the rectitude of his intentions.

But the death of Mr Law more particularly deſerves to be recorded in a work intended to benefit Scotiſh agriculture, becauſe, both in his private and public capacity, he warmly promoted that art. He was the firſt man that introduced into Eaſt Lothian the uſeful practice of harrowing wheat lands in the ſpring months; thereby paving the way for the ſyſtem now generally adopted, of ſowing graſs ſeeds with that grain—a moſt beneficial practice of modern huſbandry. By him alſo was the plan firſt carried into action, of paying outgoing tenants for the dung ariſing from the penult crop, inſtead of allowing them to lay it upon land intended for carrying a crop of barley, which neceſſarily was their reſource in former times. It is believed this plan was never ſanctioned by the Superior Court; though every perſon, even thoſe of the moſt ſhallow capacity, muſt, upon conſideration, view it as well calculated to further the intereſt of agriculture and of the ſeveral parties. In ſhort, he was a good man and a juſt; therefore deſerving of being held up as a pattern for the imitation of thoſe who follow him.

Died at Haddington, on the 29th January 1807, in the 61ſt year of his age, ALEXANDER FRASER Eſq. Sheriff-clerk of that county, joint agent of the Bank of Scotland there, and deputy collector of aſſeſſed taxes.

Mr

Mr Fraſer, originally from Inverneſsſhire, had acted as Sheriff-clerk of Haddington for forty years, and in that capacity was eminently diſtinguiſhed for regularity and correctneſs. The writer of this article has known him intimately for twenty-five years, and enjoyed many opportunities of aſcertaining his character in theſe reſpects. In his connexion with agriculturiſts, as man of buſineſs to various country gentlemen, Mr Fraſer conſtantly diſplayed the ſtricteſt honour and integrity. While he diſcharged every duty with fidelity to his employer, he never ſhewed the ſmalleſt deſire to oppreſs, or impoſe unneceſſary burthens upon thoſe who in ſome meaſure were under his direction. A particular quality belonged to him, namely, the training of young men to habits of buſineſs; and it is believed that few of his profeſſion, holding his limited ſphere in view, were in this reſpect more generally ſucceſsful.

Mr Fraſer is ſucceeded in the agency of the Bank, by his ſon Mr Hugh Fraſer, a young gentleman of conſiderable abilities, who was regularly bred to buſineſs in a reſpectable law-houſe in Edinburgh. The agency has, ſince 1802, been executed by him in ſuch a way as has afforded the public great ſatisfaction.

NOTICES TO CORRESPONDENTS.

The *Review Branch* is poſtponed for this number; a delay neceſſary, on account of the large ſtock of original communications lately tranſmitted. Dr Dickſon's *Complete Body of Huſbandry*, two volumes 4to, is under examination, and will ſoon be noticed.

The *Letter from Cumberland* muſt be retouched. A trouble of this nature we never grudge, providing there is ſome ſenſe to work upon, and a portion of this does not ſeem wanting in the communication alluded to.

We are obliged to the author of the *Eſſay on Inverneſsſhire Huſbandry*, which ſhall be preſented as ſoon as poſſible, together with the excellent hints of *Amicus Scotiæ*, and the paper recently ſent us by our good friend S. E.

Strictures on the Plan for inſtituting evening Schools for Farm Servants, and various other papers, are under conſideration. A paper on Potatoe Huſbandry, by the Reverend Mr Campbell, is this moment come to hand.

No. XXX. will be publiſhed on Monday 11th of May.

ERRATA IN NO. XXVIII.

p. 434, 3d line from bottom, for *court regiſter*, read *county regiſter*.
p. 441, 17th line from top, for *moſtly*, read *moſt ineptly*.
p. 442, 19th line from top, for *found correſpondent*, read *found from* [illegible] *correſpondent*.

D. WILLISON, PRINTER, EDINBURGH.

THE FARMER'S MAGAZINE:

MAY 1807.

(No. XXX.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

FOR THE FARMER'S MAGAZINE.

View of the Ancient State and Settlement of the English in the County of Wexford, and the present State of the Population and Husbandry of that Part of Ireland. Communicated by a Gentleman who has made the State of Ireland an Object of his attentive Observation.

WHATEVER credit may be due to the ſplendid accounts of antiquarians, reſpecting the civilization, wiſe inſtitutions, and happy ſtate of the Iriſh nation in more remote periods, it is certain, that on the invaſion of the Engliſh in Henry the Second's reign, towards the latter end of the twelfth century, the people of Ireland were as barbarous as any of the uncivilized nations of Europe at that period. It therefore could not be ſuppoſed, that agriculture had made any conſiderable progreſs, the inhabitants ſubſiſting chiefly on fleſh, of which it appears they had abundance, from the numerous herds of cattle with which Ireland then abounded.

In the time of the Romans, we are informed, that the Eaſtern diſtrict of the county of Wexford, extending from the river Oboca or Ovoca, which ſtill is near the northern boundary of that county, to Concarne or Carn Point, was inhabited by a tribe called the Menaſſii, who had for their chief city Menaſſia, being placed to the eaſtward of the *Mo do na*, Slanus or Slane; the weſtern part of the diſtrict of Wexford being poſſeſſed by the Brigantes, who owned alſo all Waterford, and gave the name of Bergie to their part of Wexford, which to this day gives name to the barony of Bergie or Bargie.

The city of Menaſſia has been confounded with Waterford; ſome have alſo aſſerted, that it was ſituated where Wexford is now placed. From the inſpection of a very ancient copy of the map of Ptolemy the geographer, who flouriſhed about the year of Chriſt 140, which copy we have ſeen in the King's Library, there remains no doubt with us, that the ancient Menaſſia is ſituated where Fernes now ſtands, which was alſo the chief city of King Dermod. On the landing of the Engliſh, * Wexford was then inhabited by the Danes or Oſtmen, to which King Dermod laid ſiege with the aid of Fitzſtephen and Fitzgerald, † and about three hundred and ninety men they had brought with them from England to his aſſiſtance; which having ſurrendered, was granted to Fitzſtephen; and Carrig, with the lands adjoining, to Fitzgerald. To Hervey de Montmorrice, a relation of Earl Strongbow, he gave the two *contreds* or hundreds lying between Wexford and Waterford, which are now denominated the baronies of Forth and Bargie. There ſeems at that period to have been very few people in this diſtrict; and indeed, by every account, the greateſt part of Ireland was then inhabited by tribes of people, very little further advanced in civilization than the inhabitants of North America on the firſt invaſion of the Europeans. To this thin population, as well as the diviſion of the iſland into numerous ſmall tribes, is to be aſcribed the facility with which the Engliſh eſtabliſhed themſelves, with ſcarcely any army, or hardly a battle, after a few encounters on their firſt arrival; ſo that in a few years they had firmly eſtabliſhed themſelves, not only in the county of Wexford, but in various parts of the four provinces.

It was, however, in the two contreds or hundreds, granted to Hervey de Montmorrice, that a colony of the Anglo-Saxons, who had eſtabliſhed themſelves on the ſea-coaſts of South Wales, were planted, ſince called the baronies of Forth and Bargie, and known in the country by the name of the Engliſh baronies, from the firſt Engliſh colony having been not only there planted, but from their deſcendants remaining there to this day much more unmixed with the original inhabitants than any others in this diſtrict.

Theſe

* It may be here not improper to obſerve, that this firſt landing of the Engliſh, was merely that of a few private adventurers, and that they landed at Bag and Bann in the county of Wexford, where the remains of their camp is to be ſeen at this day, and which is improperly called Strongbow's Camp, who landed in the county of Waterford ſome conſiderable time afterwards.

† From Fitzgerald, the Duke of Leinſter's family are deſcended. The laſt lineal heir of Fitzſtephen, died ſome years ago at Youghall, in the county of Waterford [illegible]

These two baronies were not conquered, or taken by violence, but were granted by Dermod, King of this part of Ireland, to one of the English adventurers, who had come over, in the reign of Henry the Second, to assist him in the recovery of his kingdom. Hervey de Montmorrice, the nephew of Richard earl Strongbow, was the person declared lord of these baronies, and who, it is supposed, brought over the colony from South Wales, of the Anglo-Saxons, to settle in this part of Ireland.

This part of the county of Wexford, was well calculated for an infant colony. These baronies are surrounded on the east and south by the ocean; and on the west, are separated from the rest of the county by an arm of the sea, called the Scare of Bannow; on the north, they are bounded by a ridge of mountains, called the mountains of Fort, or Forta, signifying strong, or strength; and from this, it would seem, the barony of Fort, or Forth, acquired its name; in which barony, the descendants of the first colony have remained, it is supposed, to this day; and a few years ago, spoke the Anglo-Saxon language in considerable purity; a vocabulary of which was collected by that assiduous and learned illustrator of Irish antiquities, General Vallancey, and published in the fifth volume of the Transactions of the Royal Irish Academy. The inhabitants still speak, amongst one another, a dialect of the Saxon, mixed with English, and have no Irish whatever.

These baronies extend about fifteen Irish miles from east to west along the sea-shore, and stretching from thence to the mountains of Fort, or Forth, to the breadth of ten miles. The whole, extending from the mountains of Forth, consists of low and flat lands, entirely alluvial, containing marl, intermixed with shells. In some places, the horns and bones of the moose-deer have been found. There is here also limestone of marine origin; nor does the granite appear any where but at Concarne Point, which consists of compact granite.

The appearance of these baronies from the mountain of Forth, is not unlike the appearance of the south of the county of North Devon from the mountains of Dartmore, though on a much smaller scale. The whole district is well inhabited. The farm houses generally, as in Devonshire, are built with mud, and thatched; appearing warm and comfortable, with convenient out-houses adjoining. Even the very small farmers, of from five to ten acres, have their habitations comfortable and convenient. The inhabitants do not live entirely on potatoes, as in many other parts of Ireland. They have always oat meal stirabout with milk for breakfast, and meat for their dinner twice aweek, that is, on Sundays and Thursdays, and very often also on Tuesdays.

We were desirous of ascertaining the population of this district,

but found t very difficult to accomplish, from the fear that th people had of the inquiry being intended for some purpose o revenue or taxation; and the clergy of the Roman Catholic per suasion were afraid to assist us, without a special order from Government, as much clamour had arisen from an attempt made to ascertain the population previous to the late rebellion.

We have, however, been able to come near enough the truth for the purpose of general reasoning on the subject.

The barony of Forth comprehends twenty-two parishes, in cluding the town of Wexford, which is divided into four parishe within the walls, and three parishes in the suburbs. By a return with which we were favoured by the Rev. Mr Elyee, rector o Wexford, the population of that town is as follows.

WEXFORD.

Parishes.	*Houses.*	*Inhabitants.*
West Ward - - - - -	126	1134
East Ward - - - - -	138	1242
North Ward - - - -	140	1260
South Ward - - - -	254	2286
Within the walls - - - -	658	5922

The parishes forming the suburbs, are also as follows; th number of acres being taken from the lists of the barony con stables, and the number of houses from the hearth-money co lectors' return to Government in the year 1800.

The Rev. Mr Elyee assured us, that the rate in these parishe might be taken at the same as those within the walls, viz. nin persons to each house. But, that we might not exceed, we hav taken the population at the same rate as country parishes; in o der to determine which, we obtained an accurate enumeration o one parish, consisting of 89 families, inhabiting 89 houses, whic we found to amount to 269 males, and 291 females, or 560 pe sons, or 6.2 to a house. We have, however, taken it only six to a house. Mr Bushe takes the whole county of Wexfor at same rate.

PARISHES IN THE SUBURBS OF WEXFORD.

Parishes.	*Houses.*	*No. of Acre*
St John's - - - - -	348	320
St Michael's - - - -	404	160
St Peter's - - - -	191	1200
	943	1680
Ditto within the walls - -	658	
	1601	

COUN

COUNTY PARISHES IN THE BARONY OF FORTH.

Parishes.	*Houses.*	*No. of Acres.*
Sharmun	25	480
Carne	89	910
Island	83	1100
Rosslare	59	1000
B. Brennan and Killinie	39 + 54	740
Kilscoran	57	1295
Maglas	96	1830
Kilrane	74	1595
Jacumption	51	1720
Rathmanie	75	960
Drinagh	128	1980
Rathaspeck	67	1205
Kildavan	75	1220
Ballymore	83	1360
	1005	17,395
Parishes in the suburbs of Wexford	943	1,680
	1948	19,075

BARONY OF BARGIE.

Parishes.	*Houses.*	*No. of Acres.*
Tomhaggard and Kilturk	67 + 73	2,200
Kilmoor	140	1,900
Mulrankin and Kilcoan	86 + 53	2,300
Banow and Killag	131 + 29	3,750
Duncormick and Carrig	133 + 70	3,900
Ballyconnie and Kilmanan	72 + 90	2,850
Ambrosetown and Kilcavan	109 + 89	3,300
	1,142	20,200

From the above it appears, that the baronies of Forth and Bargie, exclusive of the town of Wexford within the walls, contain 39,275 acres, 3090 houses, and, at six to a house, will give 18,540 inhabitants; to which, if we add the population of Wexford within the walls, it will give us 24,462 inhabitants in the two baronies; of which 2147 families are wholly employed in the cultivation of the soil, in such a manner as not only to support themselves in great ease and comfort, but to produce a surplus, forming a very considerable addition to the wealth and revenue of the kingdom. This surplus produce consists in barley and wheat, potatoes and oats, with great quantities of poultry, and abundance of pork, beef, mutton, and remarkably excellent veal. There are also some dairies, where a considerable quantity of butter is made up for exportation, and some cheese; and a considerable fishery for oysters, lobsters, cod, turbot, soles, is carried on upon the coast. In the winter season, also, herrings frequently make their appearance in considerable abundance. To which ought to be added, immense flocks of widgeon, barnacle, teal, guiniard ducks, geese, and wild swans; altogether forming an abundance of not only the necessaries, but the luxuries of life, not to be surpassed in any district of the British islands.

The whole of the barony of Forth, and about one third part of Bargie, is evidently alluvial, containing, at the depth of a few feet under the soil, abundance of marl, with marine shells, and pounded pieces of limestone. A vein also of compact limestone, of marine origin, runs in a direction from north-east to south-west, from the Bay of Wexford, about a mile from the town, to the sea at Duncormick Hill. The use of marl seems to have been introduced into this part of Ireland, as a manure, from a very early period, most probably by the Anglo-Saxons, on their settling in this district, as it is said it was by them introduced into England. Lime is said to have been also made use of to a considerable extent formerly, but is now given up in favour of marl, which forms the basis of cultivation in those parts not immediately on the sea-shore. For the lands bordering on the sea, to the distance of about a mile, the floating sea-weed, and a calcareous sand found on the sea-shore, form the principal manure. In those parts, where great abundance of this sea-weed is found, they obtain excellent crops of both grain and potatoes.

In the mode of applying these manures, they uniformly prefer laying marl on the lea or sod. This is done in the summer, as soon after their seed-time as they find their horses have recovered little from spring labour; for here, as in all parts of Ireland,

Ireland, the common farmers never feed their working cattle with oats. They give from 1000 to 1400 car-loads to the Irish acre *. It is considered that the quantity should be such as to afford, when spread, a tolerably thick covering to the ground. The calcareous sea-sand they put generally on the surface, but often also form a compost of sea-sand, and sometimes earth, and the scrapings of ditches, which is ploughed into the soil.

The dung is uniformly used for potatoes, and often also sea-weed, for the purpose of raising that useful article.

After marling, they generally take wheat with one ploughing of the lea, harrow in the seed, and shovel the furrows. They sow generally in October, but often in November, about three fourths of a barrel per acre, that is, about fifteen stone. It is stated, that in moderately good years, they obtain from ten to fifteen barrels from the acre; but we apprehend, from correct information, that from eight to twelve is nearer the truth †. The cultivation of wheat has been of late years much extended. They often take wheat after potatoes. Their second crop after wheat is barley; but this is not confined to wheat stubbles; they have generally much more ground under barley than wheat, barley being their principal crop ‡. For barley they plough twice, and sow from a barrel and a half to two barrels on an acre. They have generally fifteen barrels produce in good years; and even in favourable situations upon the sea-coast, sometimes twenty barrels have been reaped; but this is where barley is made the first crop after manuring, or after beans. The surplus produce from these baronies, which are not of greater extent than the Carse of Gowrie §, amounts to nearly 100,000 Winchester quarters of grain annually, which is considerably more than the

* The Iriſh acre is, in proportion to the Engliſh ſtatute acre, as 96 to 121. So that 1000 car-loads to the Iriſh acre, will give about 700 to the Engliſh ſtatute acre; and four car-loads to the ton, will give 160 ton to the Engliſh acre; or, taking three Scotch bolls and a half to the ton, will be 560 bolls of marl to the acre.

† Ten barrels may be taken as the average of wheat, of twenty ſtones to the barrel, in good years; but ten returns for the ſeed ſown is conſidered as a good crop.

‡ This is a very bad practice, as the wheat ought certainly to be followed by a green crop; and the conſequence is, that they have in this caſe ſeldom above ſeven or eight returns of the ſeed; whereas, when barley is ſown after beans, they have from ten to twelve returns of barley.

§ We apprehend that our correſpondent has fallen into an error

the whole produce of the Carse, which is stated at 84,000 quarters *.

The farmers in this district of Ireland are now cultivating wheat as their most profitable crop, and are getting generally into a better mode of agriculture, and a rotation of wheat, peas, and barley, with red clover and grass-seeds.

The whole district is occupied by farmers, the size of whose farms are not more than from 40 to 100 acres; whereas, in the Carse of Gowrie, there are few farms under 200 acres.

The population of the Carse of Gowrie is stated not to exceed 8000 inhabitants; whereas this district certainly contains a far greater number; all of whom are well lodged, well clothed, happy and independent.

Ireland consists of 12,000,000 of acres, one fourth part of which, from the fertility of the soil, and abundance of manures, may be rendered equal in produce, and the inhabitants equal in comfort and happiness, to the district we have described.

We have reason to believe that Ireland is rapidly extending its agriculture; and that little doubt can exist, that this extension will be attended with an incalculable advance of the strength and prosperity, and consequent happiness and quiet of that part of the united kingdom.

But it is necessary that the system of government should be such as to encourage and protect the industrious cultivator, without any partiality for the followers of any profession of religious tenets; and that full freedom should be granted to all classes of people, and that every security and protection should be extended towards the Roman Catholics. That no bar should exist to any honest, industrious, and loyal man rising to any situation of the state, either in a civil or military capacity, to which his talents and opportunities afford him access.

If these circumstances are attended to, and followed up, Ireland will speedily become one of the greatest supports to the wealth and independence of the British empire.

NOTE BY THE CONDUCTOR.

The gentleman who favoured us with the above interesting communication, will please accept of our sincere thanks; and should

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hen making this compariſon; and though we do not preciſely recol- the number of acres in the Carſe of Gowrie, yet we are almoſt tain that the extent of that diſtrict is conſiderably leſs than that of baronies deſcribed.—CONDUCTOR.

* See Lord Lauderdale's Public Wealth, Appendix.

should he be pleased to continue his correspondence, the strictest attention will be paid to his wishes. His sentiments, as contained in the two last paragraphs meet with our unqualified approbation, though sorry to observe, from recent circumstances, that measures of the nature suggested are not at this time to be acted upon. Ireland has always appeared, in our view, as a part of the empire with which much good might be done, though hitherto, from prejudice or something worse, the benefits which might be gained from that island have, by the effects of a bad system, been lost or misapplied. In fact, Ireland has hitherto been rather a detrimental, than a beneficial appendage to Britain; nor will she be otherwise, unless a more enlightened system is pursued, both in civil and religious affairs. N.

FOR THE FARMER'S MAGAZINE.

East-Lothian Fiars for Crop 1806.

[The proof for ascertaining the Fiars of East-Lothian, for crop and year 1806, was taken at Haddington, March 6. 1807, when sixty-seven witnesses were examined. A sight of the proof has been obligingly allowed us; for which we are much indebted to Mr Burnett, the Sheriff-depute of the county, and Mr Fairbairn, his substitute; and the following abstracts will shew the fiars of each grain, and the different quantities and prices on which they were formed.]

Quantity of Grain deponed to, before the Sheriff of Haddington, March 6. 1807, *in the Process for ascertaining the Fiars of that County, and the Prices at which it was sold for Ready Money, being all of Crop* 1806, *and delivered within the limits of the County.*

WHEAT.

19	bolls at 45s.	518	bolls at 39s. 6d.
143	do. at 44s.	3132	do. at 39s.
77	do. at 43s.	14	do. at 38s. 10d.
60	do. at 42s. 6d.	299	do. at 38s. 6d.
411	do. at 42s.	3819	do. at 38s.
66	do. at 41s. 6d.	570	do. at 37s. 6d.
1181	do. at 41s.	1232	do. at 37s.
65	do. at 40s. 6d.	5	do. at 36s. 9d.
5978	do. at 40s.	413	do. at 36s. 6d.
800	do. at 39s. 8d.	15	do. at 36s. 4d.

WHEAT

WHEAT—continued.

2075 bolls	at 36s.	218 bolls	at 32s.
187 do.	at 35s. 6d.	11 do.	at 31s. 6d.
1044 do.	at 35s.	49 do.	at 31s.
148 do.	at 34s. 6d.	37 do.	at 30s. 6d.
349 do.	at 34s.	85 do.	at 30s.
195 do.	at 33s. 6d.	13 do.	at 27s. 6d.
146 do.	at 33s.	9 do.	at 26s.
48 do.	at 32s. 6d.	2 do.	at 23s.

ABSTRACT OF WHEAT.

Quantity, 22,183 bolls, which sold for -		L. 42,426	12 9
First average - - -		L. 1	19 11
Add 2½ *per cent.* - - -		0	1 0
Which, according to the usual regulation, as explained in our Magazine for May last, makes the highest fiars - - -		L. 2	0 11
Second average, or general medium -		L. 1	18 3
Add 2½ *per cent.* - -		0	0 11½
	Second fiars	L. 1	19 2½
Third average - -		L. 1	16 5¼
Add 2½ *per cent.* - -		0	0 10¾
	Third fiars	L. 1	17 4

BARLEY.

906 bolls	at 32s.	687 bolls	at 27s. 6d.
244 do.	at 31s. 6d.	1446 do.	at 27s.
550 do.	at 31s.	152 do.	at 26s. 6d.
194 do.	at 30s. 6d.	541 do.	at 26s.
3068 do.	at 30s.	15 do.	at 25s. 6d.
66 do.	at 29s. 6d.	23 do.	at 25s.
1028 do.	at 29s.	42 do.	at 24s.
328 do.	at 28s. 6d.	4 do.	at 22s.
252 do.	at 28s.		

Quantity, 11,116 bolls, which sold for - L. 15,999 10 0

First average - -		L. 1	10 4
Add 2½ *per cent.* - -		0	0 9
	First fiars	L. 1	11 1

Second

Second average, or general medium -	L. 1	8	9¼
Add 2½ *per cent.* - -	0	0	8¼
Second fiars	L. 1	9	6
Third average - -	L. 1	7	5½
Add 2½ *per cent.* - -	0	0	8¼
Third fiars	L. 1	8	2

OATS.

46 bolls at 26s.	10 bolls at 20s. 10d.		
17 do. at 25s. 6d.	29 do. at 20s. 9d.		
715 do. at 25s.	289 do. at 20s. 6d.		
40 do. at 24s. 6d.	10 do. at 20s. 4d.		
1728 do. at 24s.	1436 do. at 20s.		
13 do. at 23s. 9d.	20 do. at 19s. 9d.		
400 do. at 23s. 6d.	213 do. at 19s. 6d.		
1653 do. at 23s.	38 do. at 19s. 3d.		
42 do. at 22s. 9d.	916 do. at 19s.		
1080 do. at 22s. 6d.	43 do. at 18s. 9d.		
7 do. at 22s. 3d.	259 do. at 18s. 6d.		
1702 do. at 22s.	75 do. at 18s. 3d.		
10 do. at 21s. 10d.	231 do. at 18s.		
13 do. at 21s. 9d.	75 do. at 17s. 6d.		
231 do. at 21s. 6d.	47 do. at 17s.		
1421 do. at 21s.	4 do. at 16s.		
Quantity 12,864 bolls, which sold for -	L. 14,038	16	0
First average - - - -	L. 1	3	2½
Add 2½ *cent.* - - - -	0	0	6½
First fiars	L. 1	3	9
Second average, or general medium -	L. 1	1	9½
Add 2½ *per cent.* - - - -	0	0	6½
Second fiars	1	2	4½
Third average - - - -	L. 0	19	10½
Add 2½ *per cent.* - - - -	0	0	5½
Third fiars	L. 1	0	4½

PEAS.

PEAS.

10 bolls at 26s.		9 bolls at 19s. 6d.	
5 do. at 22s.		141 do. at 19s.	
36 do. at 21s.		5 do. at 18s. 6d.	
7 do. at 20s. 6d.		211 do. at 18s.	
97 do. at 20s.		11 do. at 17s.	

Quantity 532 bolls, which sold for - - L. 507 1 6

First average - - - -	L.	1	0 7½
Add 2½ *per cent.* - - - -		0	0 6
First fiars	L.	1	1 1½
Second average, or general medium -	L.	0	19 0½
Add 2½ *per cent.* - - - -		0	0 5½
Second fiars	L.	0	19 6½
Third average - - - -	L.	0	18 4½
Add 2½ *per cent.* - - - -		0	0 5½
Third fiars	L.	0	18 9½

Comparative view betwixt the above and the proofs taken in the two preceding years.

WHEAT.

Crop 1804, quantity deponed to - -			18,510 bolls.
—— 1805, do. do. - -			27,134 do.
—— 1806, do. do. - -			22,183 do.

Increased quantity in 1806 above 1804—3,673 bolls.
Decreased quantity in 1806 below 1805—4,951 do.

Crop 1804, value of wheat - -	L.	38,254	15	2	
—— 1805, do. - - -		44,184	12	1	
—— 1806, do. - - -		42,426	12	9	
Increased value in 1806 above 1804,	L.	4,171	17	7	
Decreased value in 1806 below 1805,		1,757	19	4	

Crop 1804, highest fiars - - -	L.	2	6 1
—— 1805, do. - - -		1	16 0½
—— 1806, do. - - -		2	0 11

Decrease in 1806 below 1804, L. 0 5 2 *per* boll.
Increase in 1806 above 1805 - 0 4 10¼

BARLEY.

BARLEY.

Crop 1804, quantity - - - - 8,099 bolls.
—— 1805, do. - - - - 6,937 do.
—— 1806, do. - - - - 11,116 do.

Increased quantity in 1806 above 1804—3,017 bolls.
Do. in do. above 1805—4,179 do.

Crop 1804, value - - - L. 12,468 0 0
—— 1805, do. - - - 9,191 2 9
—— 1806, do. - - - 15,999 10 0

Increase of value in 1806 above 1804, L. 3,536 10 0
Do. in do. above 1805 - 6,808 7 3

Crop 1804, highest fiars - - - L. 1 13 3¼
—— 1805, do. - - - - 1 9 10
—— 1806, do. - - - - 1 11 1

Decrease of 1806 below 1804, L. 0 2 2¼ *per* boll.
Increase in 1806 above 1805 - 0 1 3 do.

OATS.

Crop 1804, quantity - - - 11,696 bolls.
—— 1805, do. - - - 11,785 do.
—— 1806, do. - - - 12,864 do.

Increased quantity in 1806 above 1804—1,168 bolls.
Do. in do. above 1805—1,079 do.

Crop 1804, value - - - L. 11,231 16 2
—— 1805, do. - - - - 11,285 15 10
—— 1806, do. - - - - 14,038 16 0

Increased value in 1806 above 1804, L. 2,806 19 10
Do. in do. above 1805 - 2,753 0 2

Crop 1804, highest fiars - - - L. 1 1 2½
—— 1805, do. - - - 1 1 8¼
—— 1806, do. - - - - 1 3 9

Increase in the rate of fiars in 1806 above 1804, 2s. 6¼d. *per* boll.
Do. do. in do. above 1805, 2s. 0¼d. do.

PEAS.

Crop 1804, quantity - - - 1,454 bolls.
—— 1805, do. - - - - 1,374 do.
—— 1806, do. - - - - 532 do.

Decrease in 1806 below 1804—922 bolls.
Do. in do. below 1805—842 do.

Crop

Crop 1804, value	- - -	L.	1,275	1 6
—— 1805, do.	- - - -		1,107	15 0
—— 1806, do	- - - -		507	1 6

Decreased value in 1806 below 1804, L. 768 0 0
Do. in do. below 1805 - 600 13 6

Crop 1804, highest fiars	- - -	L.	0	19 2¼
—— 1805, do.	- - - -		0	17 2¼
—— 1806, do.	- - - -		1	1 2¼

Increase in 1806 above 1804, L. 0 1 11¼
Do. in do. above 1805 - 0 4 0¼

Crop 1804,—Total quantity of the different grains
deponed to - - - 39,759 bolls.
—— 1805, Do. do. 47,230 do.
—— 1806, Do. do. 46,695 do.

Increased quantity in 1806 above 1804—6,936 bolls.
Decreased do. in do. below 1805— 535 do.

Crop 1804, value	- - -	L.	63,224	12 10
—— 1805, do.	- - - -		66,569	5 8
—— 1806, do.	- - - -		72,972	0 8

Increase of value in 1806 above 1804, L. 9,747 7 5
Do. in do. above 1805 - 6,402 14 7

From the above tables, the following conclusions may be drawn.

1*st*, That the crop of wheat, 1806, in the county of Haddington, was considerably inferior to that of the preceding year; a conclusion that receives additional support from there being a much smaller quantity in the stack-yards than last year at this time.

2*dly*, That either a greater quantity of barley was cultivated last season than in the two preceding ones, or that the produce has been superior to the crops of these years.

3*dly*, That the culture of oats continues nearly upon its former footing, the difference of produce this year above that of the two preceding ones being immaterial.

4*thly*, That peas were a bad crop, affording hardly one half of the usual return.

N.

To

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Information requested concerning a Trenching Plough.

SIR,

BEING employed in the improvement of waste stony ground, by trenching it with the spade to the deepness of 15 inches, and thinking that information concerning a trenching plough, which would answer the same purpose, might be obtained through the channel of your Magazine, I am induced to request that these few lines may be inserted in your earliest Number, and will thank any of your correspondents acquainted with such an implement, who will favour me with intelligence respecting its operation and utility, and where it may be purchased.

On some future occason, I mean to send you a detailed account of my attempts to improve ground by spade trenching, which perhaps may be worth a page or two of your Magazine. My wish, however, is to make a fair experiment betwixt the plough and the spade, before such an account is submitted to public inspection. Should the plough answer equally well as the spade, undoubtedly a considerable saving must be obtained, the process of trenching by the hand being both tedious and expensive. I am yours, &c.

F. S.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Information wanted as to the Means of counteracting the pernicious Effects of certain Sheep Pastures.

SIR,

I HAVE a pretty place in the country, sixteen miles from the sea-coast, on a river side. I like to see my sheep feeding round my house. This my shepherd objects to, because the grass is of a purgative nature, and he thinks it does not fatten his flock so well as some other places on my farm; and when I walk round my house, there is too evident proofs of what he says. If you will be so good as to publish this in your Magazine, perhaps some receipt, by which I can remove the objection made to the grass round my house, may be given by some of your correspondents; which will oblige your humble servant,

JOHN SMART.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

The Cause of Curl in Potatoes, and a Cure for that Disease.

SIR,

IN your valuable Magazine for May last, I noticed a paper by the Reverend Alexander Campbell of Kilcalmonell, on the culture of potatoes. This gentleman has been at great pains to ascertain what is the proper distance to plant potatoes from each other in every direction; likewise what manure answers best on different soils, &c. He has likewise suggested a cure for a disease in potatoes, commonly called the curl, which disease has of late been very destructive in some soils, and particular seasons. Considerable attention has been paid to prevent it, but comparatively little to find out the true cause of the disease.

Since reading Mr Campbell's paper, I had occasion to pay a visit to an old acquaintance of mine, viz. Robert Welwood Esq. of Garvock. While he was shewing me some improvements he had made in the culture of potatoes, I mentioned Mr Campbell's method of curing the curl. He said he had not paid much attention to the cure, but flattered himself he had found out the cause. The following is his narrative.

Some years ago my gardener and I made it our study to find the cause of curl in potatoes; and for this purpose, whenever we found a diseased plant, we took it up, and always found the young shoot or stem stripped of its skin or bark. We observed this appearance several times before we found the cause; but by taking caution, and being more accurate in our researches, we discovered a small insect, of the worm kind, adhering to the stem, and feeding upon it. From this circumstance it seemed evident, that a certain proportion of the sap destined to nourish the plant is lost, by the incision made by the insect. It is a well known fact, that young plants, as well as young animals, must have a proper supply of food, otherwise they will be dwarfish; in other words, their health and strength will be in proportion to the nourishment they received when young. Further, at the end of the season, some of the produce of the diseased plants were laid up for seed, and planted in the spring; and last year they turned out as healthy and sound as any plant in the field; a direct proof that the disease is local, and not hereditary, as has been generally believed.

Another difficulty still remains, how is the evil to be prevented? This, I presume, may be done many ways; but if the cuttings be steeped in lime-water, in water impregnated with tobacco or soot, I should then conclude no vermin will attack the [illegible] when young [illegible] your obedient humble servant,

JA. INGLIS.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Ploughing Matches.—Reply to A B C Junior.

SIR,

YOUR facetious correspondent A B C junior, has twice endeavoured to entertain you, and the readers of the Magazine, by diffuse papers on the subject of ploughing matches. No body can doubt, that in composing and reading these papers, he has contrived to amuse himself; and possibly his pleasantry would have entertained the readers of your work also, if he had not directed it against institutions which the common sense of mankind approves of,—and intermingled with his irony a considerable proportion of misrepresentation. Papers of this description may possibly be admitted in order to furnish variety, and to gratify such as are fatigued with reading sober truth and plain sense, or such as delight in contradicting them. They may also afford some satisfaction to those who have written papers for the Highland Society, without obtaining the preference which they expected: And if any gentleman has been refused the office of editor for that Body, in compiling their publications, very possibly such a man may take pleasure in seeing A B C endeavouring to cover their proceedings with ridicule. His efforts to set that Society right, in the planning and distribution of their premiums, have not indeed been very successful. The Highland Society have taken no sort of notice of him; therefore his wise instructions to them have been unluckily cast away.

Leonidas, as an humble individual, honoured by A B C junior with many genteel compliments, and offered the benefit of his assistance as a servant, may possibly be expected to receive his offers with becoming gratitude. If I were to accept of A B C junior as a servant, I would employ him to hold the plough, instead of writing about it; and I have little doubt that his performance in that office would excite the *marked attention* of the public: if his work did not attract attention, the public would probably discover in his face, or in his gestures, as much of the harlequin as would bring many to see him; and I am really of opinion, that, in such a scene, he would be as much in his element as in your Magazine.

The diffuse illustrations which he has given of my condensed reasonings, in order to enable your dull readers to comprehend them, have no doubt thrown a vast deal of light upon them. To some of your readers it may possibly occur, that my new servant has been rather too familiar with my reasonings, and that the of-

fice which he has made choice of, hardly authorises him to take it for granted that he may comment as he pleases on my writings, or that the bulk of your readers are destitute of intelligence to comprehend my meaning, as expressed in my own words. But, Sir, you well know, and these people ought to consider, that this is the time for servants to assume airs of importance; to become instructors both of their masters and of the public; to laugh at and despise the common sense of mankind; and to swagger themselves into Princes, and even Emperors. And why should not my new servant A B C junior, endeavour to distinguish himself in this way, as others have done before?

It is not in reasoning that this prodigy of wisdom and talents excels. His principal qualification consists in throwing a fashionable air of absurdity on the reasonings of others. He endeavours to dress them out in his own fool's coat, and then laughs at them. He holds an irregular mirror to their faces, and then exhibits the distorted picture to the public eye. He is an artist of a new order, who draws pictures of men and things, ploughing matches and societies, in caricature; and then sets up for a great master in the noble art of painting. His *designs*, in particular, will doubtless do great honour to himself, and to your Work; and, in point of execution, in his own line, he really excels. Postulates, truisms, herrings, manufactories, gapers, sly dogs, and weaving matches, are all orderly delineated; and human nature itself is happily represented by him in the form of a crank!

One does not expect to meet with correct likenesses in caricature; and, accordingly, the likeness of *reason* is not exhibited in the drawings of my servant A B C, No. 27. of your Magazine. Therefore, to remark upon those drawings in the style of reasoning, would not be giving him fair play.

To correct the mistakes of my servant, would perhaps be resented by a man of his talents. But there can be no harm in venturing to tell him, that I have never doubted the concurring influence of other causes besides ploughing-matches, in promoting the same end for which they are instituted; nor do I suppose that any human being is ignorant of the influence of a master's eye over his ploughmen, or of the natural effects of superior encouragement to such as do most work, and of best quality, in the least time. I regret that the merit of having discovered these concurrent causes of permanent, never-ceasing operation, as he calls them, cannot be allowed to A B C junior; or, I dare say, he thought he had discovered them for the first time, and that neither the Highland Society, nor Leonidas, nor even the Conductor of the Farmer's Magazine, had any idea of them.

To

To dispute with a servant is not perhaps very seemly, and therefore I shall not contend with him about the *quantum* of the operation of any cause that leads to good ploughing as an effect. In ploughing-matches, he sees no good effect whatever; he sees them as things superfluous and nugatory. The other causes which cooperate to encourage good ploughing, have had such a 'supremacy and efficacy,' that nothing more is wanting; and neither the marked attention of the public, nor the patronage of men of superior station, nor the premiums awarded by them to such as excel in good ploughing, are of the smallest use to encourage that art, already arrived at perfection.

My servant, in his delineations of men and things, has represented the readers of the Farmer's Magazine as people destitute of intelligence, and the Highland Society as a set of men utterly ignorant of the objects which they have in view, and very much in need of instructions from their old acquaintance the A B C. He sees nothing but perverseness in the managers of manufactories, and in the chaisefuls of people who come to visit their works: yet he sees much good resulting from all this; while, at the same time, a wood close by him cannot be seen for the trees: and though he can easily see three halfpence worth of herrings, he cannot perceive a larger parcel close by him worth elevenpence. But, when he casts his eyes on ploughs and ploughmen, and examines their work, there is nothing but absolute perfection there; it is impossible, by any new incitements, and particularly by attentive inspections and premiums, at ploughing-matches to excite the smallest spark of emulation, or to improve either the implements or the work. Every plough whatever—Scots, English, or of any other country, is already complete; and all the ploughed lands in the kingdom are well dressed; nor can the ploughmen be improved by emulation, or by recompense, farther than they are already, by 'causes of never-ceasing operation cooperating to that end!'

Such, Sir, is the decisive issue to which your correspondent A B C has brought this matter. No doubt but he is the man: And, certainly, if the Highland Society would publish a match at caricature writing, he is likely to obtain the first prize. I hope that respectable and public-spirited Body of Men will take this hint, and give over advertising for ploughing-matches, that my truly and renowned servant may have an opportunity, not only to display the powers that he possesses in that field, but to prove, *in public*, how superior he is, and to obtain the due reward of his distinguished merit. I am, &c.

16th *January* 1807. LEONIDAS.

NOTE BY THE CONDUCTOR ON THE FOREGOING LETTER.

PARTIES being fully heard, we beg leave to close the debate, and to refuse further representations. It is not our wish that papers such as those alluded to should frequently appear in the Magazine, though we have no particular objection against them, when guided by judgement, and animated by good humour. It must be confessed, that they tend little to edification, and only serve to relieve the Magazine from that monotony necessarily attendant on a publication exclusively devoted to agricultural affairs. Under this impression, we have repeatedly indulged several ingenious correspondents, thinking, when gratifying them, that we contributed to the amusement of our readers; or at least, that we introduced a variety which served to make the rest of our quarterly dish better relished.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Utility of Noticing Scottish Improvements.

SIR,

THE increasing correspondence of the Farmer's Magazine, as intimated in the close of your last Volume, must give pleasure to every one of its readers, being the surest test of the estimation in which it is held by the public. And, if I am able to form a right judgement, the last Number of that Volume, from the variety of useful economical discussion, and interesting information, which it contains, is not the least valuable that has appeared.

By economical discussion, I mean the paper on the Legal Endurance of a Lease; the Report of the Process against a Tenant for Sowing Wheat; the Remarks on Baron Hepburn's Outline View of the Corn Laws; the Review of Mr Bell's Treatise on Leases; and other disquisitions of the same sort:—And, by interesting information, I allude to the two paragraphs in your leading article of Agricultural Intelligence, respecting the sale of Mr Culley's sheep, and Mr Sitwell's purchase of cattle of the north-west Highland breed; and, more particularly, the article in the Perthshire Quarterly Report, respecting the Lochearn and Tay Canals, as projected works of great public utility.

The Farmer's Magazine is a work so excellent in its plan, that I believe it is extremely difficult to suggest any improvement thereof; but I hope I may be permitted to say, that I have sometime thought, that if all great public works recently

cently executed, or at present in agitation, and likely to be carried forward, in Scotland, were shortly noticed in your article of leading intelligence, or in some other department of the Magazine, the mention might create an additional interest, and convey to the public most useful information, even although some of the works themselves were not immediately connected with agriculture. For it appears to me, that wherever a large sum of money is to be laid out, let the object be what it will, the expenditure tends, in a greater or lesser degree, to give encouragement to the agriculture of the neighbourhood. And I look upon the construction of a canal or harbour, the erection of a bridge, the formation of a garden, or the execution of a plantation, in the above respect, nearly in the same point of view; over and above the facilities which they give to agriculture,—the two first by conveyance, and the two last by raising nursery, and producing timber.

The public mention of great and useful works, is not only a tribute due to the projectors and promoters of them, but may operate as an incitement to others to imitate the example. The short notifications which have been from time to time given in the Magazine, of the commencement and progress of that great national work the Caledonian Canal, have always been, in so far as I have understood, most acceptable to all your readers, and anxiously wished to be continued. And, doubtless, that magnificent undertaking is to be viewed not more as calculated to promote the purposes of commerce than of agriculture. From the vast sum of money that must necessarily be expended in the construction; from the increased population that will of course take place along its track; and from the easy means that it will afford for the transportation of manure to, and of every sort of farm produce from, the countries lying upon its banks, it is likely to occasion a new æra of expenditure, and of production and consumption, in that part of the country. And from the example that it will furnish of the projecting and executing of great undertakings, and from the actual knowledge and experience that it will afford of real and substantial labour and workmanship, it is likely to give a new turn to the habits, as well as to the ideas and modes of thinking, of the people in the Highlands of Scotland.

In a subordinate degree, no body, I suppose, will deny that the great improvements carried on at Inverary, by the late and two former Dukes of Argyle, besides the money expended in the execution of them, contributed, in a material degree, to excite a spirit of improvement, and to ameliorate the agriculture of the whole district. Every one will allow, that the vast improvement

of the estate of Callendar, since it came into the hands of Mr Forbes, has been of the most beneficial consequence to the whole neighbourhood. Every one will most readily grant, that the erection of the two bridges at Fochabers and Dunkeld, over the great rivers Spey and Tay, has been chiefly owing to the exertions of the Dukes of Gordon and Athole; and will rejoice that the public spirit of these two respectable noblemen should be generally known. Every one will join in approbation of its being known, that the Earls of Murray, and Findlater, and Fife, have made immense plantations on their estates in the north-east counties of Scotland, which promise to be of the greatest advantage to themselves, and to the country. And every one will assent to the truth, that the magnificent gardens erected by the late Mr Murray of Broughton, near Kirkcudbright; those by General Wemyss in Fifeshire; and those more lately erected, or just now erecting, by Mr Maule of Panmure, near Brechin in Forfarshire, have given employment to a multitude of labourers, and been the cause of putting into circulation very considerable sums of money. Many instances of similar works lately executed, or just now going forward, might be mentioned.

I have in my eye three or four great works at present going on in Scotland, a few notices respecting each of which would, I am persuaded, form an interesting paragraph to most of your readers. Among these are the great buildings, and other improvements of the Earl of Wemyss, at Gossford in East-Lothian; the Paisley Canal, and the harbour and new town of Ardrossan in Ayrshire, projected and carrying forward by the Earl of Eglintoun; the magnificent house now erecting, and the improvements which I understand are projected, by the Earl of Mansfield at Scoone in Perthshire; the great ameliorations which were projected by the late Earl of Galloway on his estate of Baldoon in Wigtonshire, in consequence of the late set of that estate, which fall now to be executed by his son the present Earl, and which have been already repeatedly noticed in the Magazine. The noble new wet dock at Leith, from what has been at different times said about it in the newspapers, is, I presume, pretty generally known; but the new harbours to be formed at Thurso, Wick, Port-Gower, and Frasersburgh, on the north-east coast of Scotland; that at Helensburg, on the Clyde opposite to Greenock; the enlargement of the harbour of Greenock itself; the completion of the Crinan Canal; and, finally, the progress of the new roads to be made in various directions through the North and West Highlands and Islands, and the harbours to be formed at different places, to connect them with each other, may each of them occasionally furnish interesting and acceptable paragraphs.

Nor

Nor would I be averse to see an occasional notice of such plantations and pleasure grounds, as are now generally formed around the mansions of the noblemen and gentlemen in almost every corner of Scotland. Such are those lately done at Valleyfield, the seat of Sir Robert Preston, Bart. in Fifeshire; those now carrying forward at Machany, the seat of General Drummond in Perthshire; and those which I understand have been lately projected and designed for Leuchie, the seat of Sir Hugh Hamilton Dalrymple, Bart. near North Berwick, in Haddingtonshire; and many others. All such objects create an additional interest in the country, both by bringing strangers to see them, and by attaching the proprietors more closely to the spots. The art of forming such places has hitherto been denominated *landscape gardening*, but, I believe, is now more properly called *picturesque improvement*. How many strangers have Inverary, Taymouth, and Dunkeld invited to visit Scotland, when there were few other such places to be seen? Now we have a great many, and the number is increasing every day. And surely, from the inequality of the surface, and the magnificent natural objects that every where present themselves, no country whatever is more calculated for a beautiful display of picturesque improvement than Scotland.

Should it be objected by any of your readers, that these are unfit subjects for the Magazine, I answer, that I now consider the Farmer's Magazine as the general vehicle, through which we expect to have conveyed to the public every thing connected with the prosperity and improvement of Scotland; and I contend, without fear of contradiction, that the erection of a bridge, the formation of a road, or the execution of a plantation, have, in many instances, a more general tendency to the advancement of the agriculture of the neighbourhood, than the bringing into tillage a field, the enclosing a farm, or even the opening up of a limestone quarry; for with respect to this last in particular, without roads and bridges, it may be of very little use. And I am clearly of opinion, that in a work intended to promote the general prosperity of the country, every circumstance that may tend, even in a remote degree, to forward that prosperity, may be properly and legitimately introduced. Perhaps, our celebrated countryman Dr Adam Smith has too much narrowed the grand principle of his great political work, when he limits useful or productive labour to such as brings an actual return, or can be converted to bring a return; for although, in many cases, some of the labours of a Mansfield or an Erskine, a Garrick or a Siddons, a Cullen or a Blair, may not produce much actual return, yet

their labours cannot, nevertheless, be properly said to be without great use.

And further, in answer to those who might deem the subjects I have mentioned as unfit for the Farmer's Magazine, I beg leave to observe, that the celebrated farming tours of Mr Arthur Young, the most voluminous of all writers on agriculture, published some of them thirty years ago, contain not only an account of the most remarkable architectural objects in the circuit of his several journies, but, in many cases, a complete and critical list of the paintings contained within them, and uniformly an account of the pleasure grounds circumjacent. And more lately, when Sir John Sinclair, prefident of the Board of Agriculture, gave inftructions to the furveyors appointed by the Board, to take an account of the ftate of agriculture in the feveral counties of Great Britain; one of thefe inftructions uniformly was, to take particular account, and make report of, not only the offices and other farming conveniences about the feats of the proprietors, but alfo the manfion-houfes themfelves. And laftly, it is well known, that the moft reputable magazines, and other periodical works now publifhed in London and Edinburgh, although their objects be profeffedly literary, do not fail to referve a place for an account of the progrefs and prefent ftate of agriculture, manufactures, commerce, philofophical and mechanical difcoveries, and of the arts, for the period.

With thefe ftrong inftances before me, I have been emboldened to recommend your following the example; but at the fame time, I requeft it to be underftood, that any fuggeftion which I may venture to offer is always given only by way of hint, knowing well that your own judgment of what is, and what is not proper for the Magazine, is far fuperior to mine; befides, being fenfible that you have many among your numerous and highly refpectable correfpondents, who are much better qualified to give advice than I am. Yours, &c.

London, 12th Jan. 1807. AMICUS SCOTIÆ.

NOTE BY THE CONDUCTOR.

WE are greatly obliged to AMICUS SCOTIÆ for his useful hints, and assure him that no pains shall be spared, so far as our exertions can go, to procure the most correct account of every improvement, either in Scotland or England, which is connected with rural affairs. To accomplish what is wanted, we requ[illegible] the assistance of our numerous friends. The Magazine is by [illegible] means confined to agriculture in its strictest sense; but embra[illegible] many subjects distantly *related* either to the theory or practice [illegible] that art. N.

FOR THE FARMER'S MAGAZINE.

On the Necessity and Advantage of a Farmer understanding the proper Cultivation of a Kitchen Garden.—Of his being acquainted so much with the Science of Botany, as to know what is meant by the Sexual System of Plants.

A FRAGMENT.

——— ' Laudato ingentia rura,
Exiguum colito. '

IT is a common error with too many farmers, not to pay proper attention to the cultivation of their kitchen garden, in not considering the different profit arising from the crop of a well cultivated kitchen garden, and the value of an acre of corn; nor will they scarcely suffer a load of dung to be used in the garden, where it could produce more than double the profit, than if carried into the field.

By paying a proper attention to the cultivation of the garden crops, whilst growing, the farmer would see the advantage which accrues by weeding, hoeing, and earthing up various plants; and this would soon teach him to pursue similar methods, in cultivating similar plants in the field.

Agriculture is the rough culture of the land; but the more it imitates the cultivation of a garden, so much more profitable it will prove to him; and there is no method so judicious, of teaching a farmer to be a good gardener, than observing the manner in which ground is cultivated by a skilful gardener, and imitate him in sowing and planting in a similar manner, and at the same time; especially, in keeping young crops clear from weeds, and at proper times hoeing and earthing them up; for the lighter ground lies, so much more readily it will attract the rain and dews.

A kitchen garden, for a farmer, ought also to be much larger than what is wanted for the consumption of his family, as the overplus of every sort can always be used by his horses, sheep, cattle, pigs and poultry; and part of some crops of almost every sort, ought to be appropriated for raising seed, to save the expense of buying; and, at the same time, to assure him of having the true sort he would wish to cultivate.

Besides the advantage of understanding the cultivation of a kitchen-garden, there is a science, the knowledge of which will still be of benefit to the farmer, that is, botany; I mean so much of

of it as will enable him to understand what is meant by the sexual system of plants.

This knowledge he will easily acquire by perusing Rousseau's Letters on Botany, published with additions by Martyn, a volume in 8vo., about seven or eight shillings value.

By perusing this work, he will soon be instructed in distinguishing the male and female part of a flower, which is the fundamental part of the science. There is also an explanation of all the other parts of a plant, which in many instances he will find very useful to him.

This will enable him to know the distinction of the male and female flowers of a cucumber, and not to pull off the male blossoms, which ignorant persons call false blossoms, and which practice, if pursued, will prevent any cucumbers from coming to perfection.

Hautbois strawberries, also, frequently will not produce any fruit by planting male plants instead of female, and neither the master nor gardener know the cause: these, however, are but trifling circumstances, as to the consequence of them, in regard to farming.

Farmers are frequently disappointed in their tares, by not knowing how to distinguish the winter from the spring variety: by sowing a few in a pot, he will instantly discover whether he has the right sort, by the different shape of the leaves.

If any one should wish to raise a new sort of cabbage, by making the drumhead partake of some of the property of hardiness of the red; or the white round turnip to be united with the Swedish; the science of botany will enable him to raise such new varieties of plants, from the sale of which seed, a great profit would frequently arise.

Besides these few instances which are mentioned, there are innumerable others to induce a person to apply a little of his time in learning the principles of the science of botany, which would soon repay him, both with pleasure and profit.

If he wants to raise seed of cabbages, turnips, or any other plants, it will inform him of the necessity of planting each sort at a great distance, in order to prevent the farina or male part from impregnating the other, and producing a false or spurious sort, disappointing both himself and his customers, and gaining discredit and loss, instead of profit and credit.

NOTE BY THE CONDUCTOR.

THE above fragment was some time ago transmitted by the celebrated Mr RICHARD WESTON, and was delayed publication in hopes

hopes that the remainder would afterwards be communicated. This hope cannot now be realized, that distinguished man having departed this life lately, at Leicester, in the 74th year of his age. The fragment, as a sample of his talents, is therefore presented without alteration; indeed, none was required, the author's ideas being sound as to practice, and expressed with precision.

Mr WESTON was a multifarious writer, and author of many books on agriculture and horticulture, besides various articles furnished to the Gentleman's Magazine, and other periodical works. In a letter now before us, he acknowledges himself to have published, 1. *Tracts on Agriculture and Gardening*, with a Chronological Catalogue of Authors, from 1480. This book was sold at 7s. 6d., and has gone through two editions. 2. *The Universal Botanist*, 4 vol. 8vo., with plates: 3. *The English Flora*, describing the plants cultivated in the gardens of Great Britain, 8vo: 4. *The Gardener's and Planter's Kalendar*, 12mo, two editions: 5. *The Gardener's Pocket Kalendar*, four editions; besides many others. We understand that Mr Weston had various works in hand at the time of his death, and hope care will be used that these shall not be lost. Every thing from the pen of such a man, one who seems to have conjoined theory with art, must be highly valuable; and should his representatives or executors be pleased to favour us with any hints on these matters, we will with pleasure announce their intentions to the public, through the medium of our widely extended publication. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Husbandry of Inverness-shire.

SIR,

IF every communication stood in need of a motto, I think I might adopt for this, the common one of *tempora mutantur et nos in illis*; but, without further preface, I shall intrude on you so far, as to say, that the description of the changed times, given with so much spirit by your East-Lothian Correspondent, afforded me both much amusement and room for reflection; for his pen traces his subject so much *con amore*, as to leave no doubt of the reality of what he relates.

While such great changes have taken place in those districts in the vicinity of the capital, it will not be surprising that the Highland regions, which differed, of old, from every other part of the empire,

empire, should have likewise undergone a great metamorphosis within the last half century, or I may rather say, within the last thirty years, for it is during this last period that the improvements in agriculture have so sensibly altered the face of the country and of the inhabitants. About sixty years ago, Highland manners might be esteemed in a kind of torpid state, their old animating principle having expired, and no new bias been brought forward in its place. Riot, rapine, and feudal festivity having been curbed into tame submission, the unhappy Highlanders felt all the privations which their new state brought on them, without estimating the comforts of the change which they were not disposed to taste. Thus a long period of time necessarily elapsed for the old race to die, or to emigrate in despair, and for a new people to spring up, willing to taste the pains and the pleasures of rustic labour. Besides this consideration, proper examples to invigorate the commencement of agricultural enterprise, were almost totally wanting; pride, laziness, and distrust, were to be first overcome, most particularly the last; for no Highlander will admit the possibility of success in a new plan, if he has not seen it. Yet, Sir, at the period in which we now live, every difficulty has been got the better of; and I believe that few parts of Scotland have more rapidly advanced towards fertility and value, than the counties of Inverness and Ross; or are occupied by people by whom farming is conducted with more intelligence and profit.

The manners of the Highlands (I shall chiefly confine myself to Inverness and its neighbourhood) have indeed experienced so complete a change, that the present race have not retained the smallest similarity to their forefathers; in town and country every thing has changed,—and that so rapidly and so fundamentally, that the old customs of their fathers can hardly be credited by their refined successors.

Our present county capital can vie with London in the assortment of rich goods displayed for sale in its shops—the hotels, and every other accommodation, are of the first style—the intercourse with Leith and London, regular and incessant—manufactures are established, and yearly rising, in every part of the town—our females are luxurious in their attire, and as fickle as the seasons; and, within these twenty-five years, the town, from a heap of rubbish and decayed buildings, has been transformed into a state of neatness, and even a degree of elegance. In every corner, the bustle of trade is to be met, and few idlers, except of fortune, are to be seen in the streets. This forms a wonderful contrast with its state fifty years ago. At that time there was not a good house in the whole town, or a street fit for a carriage to

to roll on. In the best family, the bed-room received the company in which the dinner was likewise served up. In the shops, the most common comforts of life were not to be found, and indeed were seldom called for. A hogshead of porter was not to be procured in the whole of the North; and the miserable smack which carried on the London trade, was employed in only two annual voyages; while, at present, four or five beautiful vessels bring each six or eight cargoes to our port. As no blessing is without some alloy, litigation was formerly so little known or profitable, that two or three lawyers lived very meagerly; while, at present, more than a dozen evince, by their looks and mode of living, that they are not condemned to spend their lives in a land of sterility. Except during the great Martinmas market, the streets exhibited a silent and dismal scene. Every person who could afford it, passed the night in drunken conviviality, and either consumed the day in the same, or in sleeping off the preceding debauch. The hovel which served for an inn was beyond all description dirty, cold, mean and comfortless.

With the Martinmas market commenced a scene of festivity, which, joining with the Christmas holidays, lasted till the end of March. This market brought an immense crowd of all descriptions from the country; and the business of the year was arranged amidst its confusion and intoxication. The greatest ladies of the county did not scorn to attend this famous scene of traffic; and I have often been shewn the stances in the street, where several of them personally plied and disposed of the produce of their farms, which were ostentatiously displayed in covered booths. The country, if possible, presented a more forlorn aspect than the capital. There was hardly a wheeled cart in the parish of Inverness. The finest fields around the town were cultivated, till within these twenty years, by the old plough drawn by six or eight little horses and oxen. Hardly an acre together was under the same kind of crop; the rigs were short and crooked, and covered with numerous cairns of stones; and green crops and fallows were almost totally unknown: so that, before the introduction of potatoes, it is difficult to conceive how the people could support life, or make their land fit to bear any sort of crop. While this was the case with the best land in the vicinity of the town, it may be readily believed, that the more distant parts were far worse farmed. Indeed, the whole art of agriculture, in most of the districts, consisted in slightly scratching the soil; and, after throwing the seed, and running a small harrow over it, they left the rest to Providence, without troubling themselves about the crop any further till it was ready for the sickle.

The

The summer was passed at the shealings, or hill grazings; and, during the milk season, in some degree of plenty: But the winter was a season of famine and contrivance. The cattle were forced to part with a quantity of their blood, to satisfy the cravings of their masters; and, being turned out to provide for themselves, grew so wild at the return of spring, as often to be hunted, and even shot like deer. The minds of the people were so filled with superstitious notions and tales of witchcraft and supernatural interferences, that they were incapable of paying attention to any thing else, unless to the festive avocations of attendance upon weddings and funerals, which were generally rendered very memorable by some bloody conflict, or other melancholy occurrence. As to houses and farm-steadings, they were no better than the meanest kind of turf huts. This was so much the case, that the whole houses and offices of several estates in the county, now worth from 1000l. to 2000l. *per annum*, were not then worth 200l. Sterling. The Highlanders had not only no turn for fine buildings, but they really detested them; and I believe that you could not punish a laird, sixty years ago, more effectually, than by taking him from his smoky hovel, to dwell in a house such as we deem comfortable at present. So true it is, that *de gustibus non disputandum.* It is this disposition to cherish old habits, that renders all improvements so hard to establish. From what we have been used to, however homely and inconvenient, we can draw comfort; our minds are, from habit, satisfied and at ease. But it often takes a length of time to make us sensible of the rationality of the best innovations; and, afterwards, it is perhaps impossible for us to assimilate ourselves to them, by getting quit of our most inveterate propensities.—*Naturam si furco expellas usque recurret.*

The same distaste which the Highlanders had for the labours of agriculture, and for the comforts of building, they likewise entertained for every other measure calculated to spread improvement. Roads and bridges were objects of their detestation and constant hostility; for they destroyed them by every means in their power, and as much as possible avoided making use of them; preferring paths and mountainous courses of their own, to the more easy line of the high-way. With such a people, it cannot be wonderful, that agriculture was tardy in coming to perfection, more especially when it is considered that leases were almost unknown; and it must give pleasure to the friends of humanity to reflect, that so many difficulties have been removed, and such a rapid progress made in this most useful of pursuits. Whoever descends into the valley of Inverness, where, thirty years ago, nothing presented itself to the eye but wretched huts and

and barbarous tillage, will now behold a country presenting fields bearing the most luxuriant and valuable crops, and farm-steadings of the neatest construction, and with the most approved machinery generally upon the farms of tenants. The people have lost the haggard and broken-hearted look which they presented formerly; and, finding the sweets of industry, apply with cheerfulness to labour. The dress of the peasantry has improved in an astonishing degree. Sixty years ago, few of the men wore shirts; and, even with the ladies of family, shoes were not the ornaments of every day. Now, every body has a supply of linen, and shoes are in common use with the country girls, who go to market arrayed, not only becomingly, but at no small expense. The value of land has risen perhaps more rapidly than in any other part of the island. Thirty years ago, hardly any estates were let by the acre, or even measured. At present, six guineas is a very common rent for an acre, and that at some little distance from the town. Those arable estates which, sixty years ago, were rented at 300l. *per annum*, or even less, are now let at 1500l. or 2000l.; and the tenants having leases are now more thriving than formerly, when the rent was smaller. The demand for butcher-meat has increased in the town and neighbourhood to such a degree, that certainly the consumption is twenty times greater than it was sixty years ago, when the most flourishing tradesmen never tasted fresh meat for many months in the year. The hills, which presented an uniform bleak appearance, are now rendered beautiful by extensive plantations; and this taste is so fast increasing, as to promise to convert into thriving forests a vast tract of our Highland wastes. So difficult is prejudice to extirpate, that those gentlemen who first set these plantations forward, were not only not imitated, but were ridiculed as visionary persons attempting impossibilities. They have lived, however, to establish the wisdom of their enterprizes; and have demonstrated, that every tree which will flourish in any part of the kingdom, will come to perfection in the Highlands. Thus, Sir, with all these improvements, and with the completion of our grand canal, the noble gift of government, this country presents, perhaps, more pleasing prospects of perfection in agriculture and population, than any other corner of the island. May these increase, and render happy a grateful people! I am, Sir, your constant reader,

SEVERUS.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Ancient Husbandry of Roxburghshire.

SIR,

THE ingenious author of 'Observations on Forfarshire Husbandry,' inserted in your Magazine for May last, very justly remarks, that 'not only does the history of every county of Scotland, but of every portion of Europe, at a particular period of its progress, exhibit a like appearance. Minute, local, or temporary circumstances, may give rise to a trifling or incidental variety; but the general outline will be found the same.' His description of the past state of husbandry in Forfarshire, appears, in many particulars, to be perfectly applicable to the state thereof in many other counties; and it seems quite unnecessary to point out the numerous instances of similarity. I suspect, however, that the ingenious author has fallen perhaps into a verbal inaccuracy, in applying the term *taid and quaird* to the mode of managing the system of *infield and outfield*. A class of occupiers of land, very similar to what he calls *steelbow tenants*, seem to have been known in Roxburghshire by the expressive title of *thirders and teinders*; a system of occupancy agreeing in many particulars to that of the Metayers in France, as described by Mr Arthur Young in his Tour through that country. This mode of managing arable land, was not only resorted to by the proprietors, but seems to have been very common among those farmers who held farms on which they did not reside; provincially, led farms.*

As explanatory of this system, I subjoin the following copy of an agreement betwixt the tenant of a led farm and his *thirder and teinder*, in the upper part of Roxburghshire, in the year 1742.

"It is agreed upon between ——— and William Legetwood, for working the ground of ——— on the following conditions; viz. The said William Legetwood is hereby obliged to sow 40 bolls of oats, bear, and peas, whereof his master is to have the *third and teind shorn and set up*: He is to answer all carriages and days dargs belonging to the laird: He is to work to cotters their corn land, carry out their muck, and lead their peats; to meet the dikers the time of bigging the fold dike; to uphold the houses by way of reparation; and to bring four bags of coals to ——— the place of his master's residence. On the other hand, the said ——— is hereby obliged to allow th[illegible]

* Only part of the farm being arable, the sheep and cattle were folded in summer; at that time, on such lands, an universal practice.

the said William Legetwood, as wages for the said service, grass for 45 sheep and 5 more referred in will, 4 cows, and 1 yeald nolt and 4 horses, with half a boll of corn sowing on the *outfield* land: He is to furnish him with 2 oxen to plough the ground till Candlemas, and after that 4, which he is to feed with his own fodder. If he want sheep of his own, his master is to pay him twenty shillings for the grass of twenty: He is to have the milk of the ewes, paying a penny a week for each ewe, and to have them one week free; and, being to mow, win, and lead the hay to the yard, he is to have a third part thereof to himself. In witness whereof, we have subscribed these presents at ——— the 16th day of June 1742."

W. Legetwood having left the farm at Whitsunday 1748, his stock was sold by public roup. The following proceeds of the roup are highly illustrative of the value of stock, and of the state of husbandry at that time, comprising the *very short*, though probably complete, list of labouring utensils then in use.

One condition of the roup was, 'that every thing within two shillings Sterling must be ready money.'

10 Ewes and lambs,	at 6s. 8d. the couple	L.	3	6	8
10 Ditto,	6s. 6d. ditto		3	5	0
5 Ditto,	6s. 4d. ditto		1	11	8
5 Yeald gimmers,	5s. each		1	5	0
8 Hogs,	4s. 2d. each		1	13	4
A cow and a calf			3	0	0
A cow			3	0	0
A cow			2	2	0
A cow			1	16	0
A cow			2	3	0
A quey			0	15	0
A ox stirk			0	16	0
A mare			1	8	0
A horse			4	1	0
A mare			4	4	0
A foal			1	11	0
	Total Stock	L.	35	17	8

Labouring Utensils.

A plough	L.	0	7	0
4 Harrows		0	8	0
A grape		0	0	6
A peat spade		0	0	8
Carry over	L.	0	16	2

	Brought over	L. 0 16 2	L. 35 17 8	
3 Pair of *peat creels*	- -	0 0 7½		
A how -	- -	0 0 8½		
A slade (or sledge)	- -	0 0 11		
A slade -	- -	0 0 9		
			L. 0 19 2	
	Total		L. 36 16 10	

I shall not detain your readers with any reflections of mine on the above, though a fertile subject; but remain your constant reader,

S. E.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Information requested concerning the Application of Lime.

SIR,

ABOUT six years ago, I limed a field of eight acres, six of which were with shells newly slacked; but the hay season coming on, the other two were not limed for two months after, when the remainder was grown quite hard; and we were obliged to break it with malls, before we could scatter it on the land.

For the first four years, the part of the field, on which new slacked shells were applied, carried by far the best crops; but the two acres that were last limed have the preference at present.

Liming is generally practised here, but the qualities of the article are not well understood. A little information on this subject, through the medium of your useful Magazine, will much oblige your, &c.

Banks of the Nith. A. C.

NOTE.

WE refer our correspondent to the numerous papers on Lime already given in this work, particularly the letters of ARATOR [illegible] 6. and 825.

[Though an able reply to Senex's Letter on Highland Husbandry appeared in our twenty-eighth Number, from one of the gentlemen who gained a share of Sir G. S. Mackenzie's premium, yet, in compliance with the wishes of *a Constant Reader*, the following additional strictures are presented. The subject discussed is of importance; and, while no injury can be received from the fullest investigation, much benefit may ultimately be gained by those concerned, especially when the discussion is carried on by such enlightened economists.]

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Additional Strictures on the Letter of Senex on Highland Husbandry.

SIR, *Glasgow, 16th August* 1806.

I BEG leave to trouble you with some remarks that occurred to me on reading a letter in your valuable Magazine, (Vol. VII. p. 316.), upon the Improvement of the Highlands, with the signature of *Senex;* and if you think them worthy of a place, they are very much at your service.

Your correspondent states the question at issue to be, 'Whether the Highlands can be best improved by the resident inhabitants, or by cultivators imported from other districts?' He pleads the cause of the Highlanders, and attempts to support it by several arguments, which I shall consider in their order.

He contends, 1*st*, 'That as the Highlands, to a certain extent, have already been improved by the natives, even in the face of numerous difficulties, there can be no doubt, were these obstacles removed, and suitable encouragement bestowed, of their capability to improve the whole, so far as natural circumstances permit improvement to be executed.'

It will not be denied to the unfortunate inhabitants of the Highlands, that they have improved the face of their country, to a certain degree, in the most unfavourable of circumstances, and under the pressure of very great difficulties; and there can be as little doubt, that, were the obstacles which at present thwart every attempt at bettering their condition removed, these people would proceed infinitely quicker in the career of improvement than they have hitherto done. So far I heartily agree with your correspondent in the opinion entertained by him of the industry and good qualities of the natives; but I cannot, with every feeling of sympathy in their favour, think them at present capable of improving their country, 'so far as natural circumstances

permit improvement to be executed.' No doubt, with the example of Lowland agriculture before their eyes, and with the allowance of an indefinite portion of time for their own improvement in that science, they may, at length, become capable of meliorating the whole of their country at some period or another. They may, after the lapse of a century or two, become as good farmers as their Lowland neighbours are at present, and may then find themselves in that state of capability which their well-meaning advocate supposes them already to have reached. But surely that gentleman will not persist in saying, that these poor ignorant people have already attained that pitch of excellence which their southern neighbours have, and are as capable as they, of beginning a system of widely extended improvement.

I admit most willingly, that the Highlanders are brave and virtuous, and, when working for themselves, are, like most other folks, an industrious set of people. I am confident, too, that, with the degree of security which farmers in the South country enjoy, they would extend still further the partial improvements they have begun. Admitting all this, it by no means follows, that these people have all the capability attributed to them by your correspondent. Although they have done a little in unfavourable circumstances—would perform more if in better—it does not follow that they are capable of every thing. Although a child does walk a quarter of a mile upon one leg and might make out the number of ten with the free use of the two, it does not follow that he can walk from Edinburgh to Glasgow in a day. So it is with the Highlanders. They are at present in the infancy of agriculture; and to expect from them the efforts of mature age, is to look for impossibilities. With every requisite which the South-country farmer possesses; with every facility which the heart of the Highlander can desire, he will find his arm grow weary and faint in an undertaking so very vast, and to which his moral and physical powers are as yet so unequal.

2d, It is stated by your correspondent, 'That the natives of every country, from superior knowledge of its soil and climate are better qualified to forward artificial culture, than strangers brought from other districts; and that the natives of the Highlands are neither morally nor physically disqualified from improving the land of their forefathers.' If the natives of a particular country, and the strangers who have emigrated to it, be *cæteris paribus* upon a par in regard to agricultural ability, this I shall admit most readily, that the former, with the advantage of an acquaintance with the soil and climate, must be the better farmer of the two. This, however, is not the case in the instance before us, although it seems to have been taken for granted by

by your correspondent. But surely he will not pretend to carry his admiration of these Alpine people so far, as to put them upon an equality with the more enlightened farmers of the South, in point of agricultural skill and ability.

I rather think that your correspondent is sensible of the superiority of the Lowland over the Highland farmer, but conceives that the difference may be counterbalanced by the *ex parte* knowledge of soil and climate supposed to be possessed by the latter. This supposition, however, would lead that gentleman into as great an absurdity as the other. We all know that agricultural skill depends upon the union of a great many requisites; and, in proportion as they are found, in point of number and value, in the person of a particular individual, he must necessarily be the most enlightened agriculturist. Now, according to the advocate of the Highlanders, that man must be the best farmer, who possesses the requisites I have alluded to, in the inverse ratio of number and value. No doubt, a knowledge of the soil and climate are very necessary qualifications in a farmer; but that alone does not form the character. A multitude of other qualifications, and of a more important kind, enter into the combination; and, without the possession of these, no man can be a good farmer. To suppose, however, a good tenant ignorant of soil and climate, is a solecism in reasoning. No doubt, an East-Lothian or Berwickshire farmer, upon landing in Caithness, might be totally ignorant of the soil of the farm he was going to occupy, and of the climate of the district in which he was about to reside. Never having been in that part of the world before, he could not possibly be acquainted with either of these facts, except by hearsay. Without this useful knowledge, he would no doubt feel himself considerably at a loss, and might suffer not a little at the outset; but, in a very short time, he would make himself perfectly acquainted with these, and other local circumstances. A person may have a thorough knowledge of both soil and climate, yet make but a very sorry farmer. The judicious agriculturist, to whom the soil and climate are strangers, could easily and readily acquire the necessary knowledge of them both. It follows, therefore, that the South Country farmer, who migrates to the Highlands, ignorant both of soil and climate, will, in all probability, improve the country more rapidly than the native farmer, who, with a perfect acquaintance of these local circumstances, is in other respects ignorant of his business.

Supposing it were true, as stated by *Senex*, that 'every part of Great Britain with which we are acquainted, has been brought into a state of cultivation by its actual possessors, without importing either capital or knowledge from other places,' still no-

thing is proved, and the question at issue is left undetermined. He will not deny, that the capital and knowledge possessed by the native inhabitants, were useful in their first agricultural efforts; and, surely, he must allow, that the possession of a greater portion of both, would have been of still greater use to them in forwarding their improvements. If number 1 produces 5, surely 6 will produce 30. The farmers from the South Country, if they do migrate to the Highlands, will carry with them a most abundant supply of that capital and knowledge, without which the aboriginal inhabitants never could have moved one inch out of their primitive barbarism, or made the little progress they have done towards improvement. That 'the first efforts to improve a country rude and uncultivated, are feeble and languid,' I am most ready to admit, and for no other reason, but that the natives themselves are rude and uncultivated. If the soil that is to be cultivated is rude, and the cultivators themselves equally so, what is to be expected but feeble and languid efforts? *Ex nihilo nihil fit.* Upon this rude and uncultivated soil, however, plant a colony of well informed farmers, and, in a very few years, those fields will bend under the loaded grain, where nothing but heather was formerly to be seen. It is for this reason that the progress of improvement in a rude state of society is so slow in comparison with the rapidity observable in countries longer settled. In this country, more has been done in the way of improvement during the last century, than for the previous seventeen hundred years. As mankind improve in civilization, they become capable of exertions which, but a few years before, never would have entered into the head of the most sanguine of speculators. Who, then, in his senses, would employ rude and ignorant natives in the grand and arduous task of improvement, where enlightened agriculturists can be procured for the same laudable purpose?

But it is not true, as stated by your correspondent, that Britain has been cultivated by the resident tenantry only, without any assistance from the capital and knowledge of strangers. Is it not well known, that farmers from the more southern districts have been for some time past migrating to the more northern? Indeed it is impossible to conceive how a rude and uncultivated country can improve in the smallest degree without the assistance of superior capital and skill, and the emigration into it of a more enlightened set of agriculturists. Unaided, such a country as the Highlands would remain for ever in the same state of barbarism it is in at present.

The expectation of perfection, in the first instance, is but the dream of a fool, and I dare say never entered into the heads of those

those who think Lowland farmers more capable of improving the Highlands than the natives themselves. Although, however, agricultural improvement must necessarily be gradual, it will advance in proportion to the means employed. The effect will, in this as in all other things, be proportionate to the cause. If enlightened farmers are to be the operating cause, the effect will be infinitely greater than if it be the poor ignorant natives themselves. Many people of a sanguine temperament, are no doubt apt to indulge themselves in the expectation of a more rapid improvement, than what a cooler and more just view of things would seem to authorise. But surely the slow progress of past times is to be no rule for it in the present, or in after. Had the progression been the same at all periods, this country would not have attained that degree of perfection which it has now reached; and, since the march has been more rapid in later times, we are authorised to infer, that it will be still more so hereafter. The exact degree of rapidity no man can say. I by no means deny, that improvement in the Highlands must be gradual; but I contend, that this object may be accomplished in a shorter period by other means than the inhabitants themselves; and, from what I have said, it is most evident, that South Country farmers are more capable of the task than those poor ignorant people.

3dly, It is stated by your correspondent, 'That the state would receive considerable injury, were Highland cultivators removed to make room for strangers, whilst humanity would be violated, were such a material change in the rural system of the Highlands adopted by the generality of proprietors.' If I be well founded in what I have said, then it follows, that the country would sustain not the smallest injury from the emigration of the Highlanders, in whatever numbers they pleased. I have shown to every unprejudiced mind, that the country would improve more rapidly in the hands of an intelligent tenantry, than in the occupation of the inhabitants. The desertion of their native country by any number of people, however small, is a circumstance much to be regretted; but, if the land that they are about to leave, is to be improved by other hands, in a degree they were incapable of, there is no help for the sacrifice. In all societies, the minority must often suffer for the majority; a part for the whole. A numerous population is a most desirable object, more particularly in times like the present; but numbers is not all. Unless that population have all the comforts of life which industry can purchase, then quantity, instead of being a blessing, is the worst of all curses. In the event of all the Highlanders emigrating from their native country, their places would immediately be supplied by the emigration of their more southern

neighbours. The space which these emigrants from the South have left vacant, would be instantly filled up by a new generation, and the population in the North would increase in an infinitely greater degree than it had been in use to do, and that in proportion as improvements came to be valued.

It is not uncommon for reasoners to eke out a weak argument by an appeal to humanity; and your correspondent seems to have availed himself of the practice among his brethren. I have myself been a witness of the scene of emigration so pathetically described by that gentleman, and not without feelings of compassion for these poor people about to leave their native home for ever. My sympathy for them, however, was not unmixed; for the tears which I shed were soon dried up, by the recollection, that they were going to another and a better country, and that the vacancy they were about to make in the place which gave them birth, would be instantly filled up by another race, better calculated than they were to execute the great work of improvement in the Highlands. I remain, &c.

A Constant Reader.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on the Ross-shire Resolutions concerning the Distillery Laws.

Sir,

In the Edinburgh Advertiser of the 21st October last, I observed a number of resolutions regarding the state of the legal distilleries in the Highland district, which were entered into by the Freeholders, Commissioners of Supply, and Justices of Peace of the county of Ross, at their annual meeting held at Tain on the 8th October last. As an inhabitant of Ross-shire, interested in the improvement of the county and its inhabitants, I deemed it my duty not to allow these resolutions to pass unobserved. I therefore used the liberty of submitting the substance of the following observations to the consideration of Mr James Donaldson, editor of that paper; of which, however, he has taken no notice. But as I trust I am correct as to facts, and that these facts are not unimportant as connected with the improvement of agriculture in Ross-shire, I now request you will give them a place in the next Number of your valuable Magazine, in case you shall deem them worthy of that honour.

The scope of the advertisement alluded to, appears to be a complaint against the acts of Parliament for regulating distilleries in the Highland district, founded on a supposition, that they are inimical to the revenue in two points of view: *First*

as operating, by their severity, against the legal distiller, by not affording him sufficient encouragement; which they seem to hold forth as the cause of this county being overrun with such hordes of illegal distillers: And, *secondly*, as causing an immense expense to Government for an establishment of officers in order to suppress these smugglers; which suppression, the sixth resolution contends, has an evident effect in the relaxation of the morals of smugglers, and often induces their utter ruin.

As a remedy for all these evils, the gentlemen of the county of Ross propose only one simple expedient. Make the duty, say they, *less severe* on the legal and fair dealer, and we shall then have no smugglers. These gentlemen, however, seem perfectly aware, that, by putting this suggestion in practice, it would give the distillers in the Highland district *an additional advantage to what they presently possess* over the legal distillers in other parts of the island. Therefore, in their 9th Resolution, they say 'they do not wish to interfere with the great distillers in the Lowland districts;' and they shall be very well pleased that the Honourable the Board of Excise shall impose every restraint which ingenuity can invent, in order to stop smuggling if they can. Nay, more, they have no objection to any enactment calculated to prevent distillers in the Highlands from interfering with the market beyond the limited line, nor against the severest penalties being imposed to prevent the use of any other grain than raised within their own district. In short, I have never perused a more mistaken string of resolutions, on a topic of such public notoriety, as those under consideration.

I therefore beg leave, Sir, humbly to state what appears to me to be the true causes of the evils experienced by the Freeholders, Commissioners of Supply, and Justices of Peace of the county of Ross. The principal branch of the population of this county is formed by the possessors of land, who have been (since the disposal of the exclusive privilege of distillation enjoyed by Ferntosh) accustomed to carry on distillation without being rigorously subjected to the legal duties. The Board of Excise, being well aware of such malpractices, have of late used very great and laudable exertions to suppress this destructive business. The profits arising from it were considerable, and they were immediate; because no great difficulty was found to get the produce conveyed to the southern counties. Almost the whole tenants of Rossshire occupy small farms on short leases, or most frequently on verbal leases. They are miserably accommodated as to dwelling houses and farm offices. Their rents are paid mostly in kind, and sometimes in whisky. In these circumstances, it is not surprising that agriculture should be much neglected amongst

mongst a set of people who are relaxed, debased, and rendered immoral, by their frequent nocturnal meetings over the *black pot*, the source of much corruption and evil. They are poor and ignorant, and their system of farming is wretched in the extreme. And to such an extent has the evil of smuggling arrived, that I am confident the records of the Excise can furnish instances (with reverence be it spoken) of some of our Presbyterian clergymen being engaged in this nefarious and disgraceful traffic.

I have the honour and happiness to be one of the tenants of a most liberal and enlightened proprietor in this county; and I have sometimes asked of my less fortunate neighbours, why they continued such a riskful trade as private distillation? Their answer uniformly was, We could not otherwise pay our rents. I must therefore wish, with the gentlemen of Ross, that smuggling was completely abolished; because, then, the *poor* man would have to work during day only (and, God knows, it is enough) for the support of the *rich* man.

There are tenants from the improved southern counties, who do not pay, from the same lands in Ross-shire, a higher rent than the poor tenants did before them, who, on an average, did not raise more than two thirds of the produce which these strangers do. And yet these South Country tenants have their difficulties. I therefore conclude, that the rental of the Lowlands of Ross-shire, is not a fair one, corresponding to the present wretched state of agriculture. The landlords are no doubt very unwilling to have it lessened; hence, in many instances, the present acts of Parliament against illegal distillation have not been enforced; and for the truth of this, I appeal to the Justices of Peace of the county, and gentlemen of the Excise. The gentleman at the head of the Excise in this district, seems to execute his duty with much laudable zeal; yet the connivance of some of the lower officers, and the lenity of the higher, tend still to preserve that bane of our society—smuggling. The freeholders are afraid, if no remedy is afforded, that their grain must rot in their granaries. It is true, their poor tenants do not, nor cannot be expected, to raise a marketable grain. But, whenever the principal object of the tenant has been farming, and an improved system of husbandry introduced, corn can be raised in Ross-shire which readily finds a market in the south of Scotland, or England. And I assert this on experience.

However unacceptable it may be, I must therefore venture to give it as my humble opinion to the freeholders of Ross-shire, that even granting they obtain the object of their resolutions, it is presumed that the distillers in the southern districts would soon find that Ross-shire whisky could be sold cheaper than any other

other. The consequence seems evident. We might be able to support the rental at its present high pitch for a few years: but agriculture and morals would languish under the footstool of Bacchus; and we would defer that till to-morrow, which should be done to day. Therefore, the landed proprietors ought to give (as some few have already done) proper encouragement to men of skill and capital, to farm their lands on a productive system. They must furnish these people with comfortable farm offices; they must be content with less rent for the first nineteen years at least, than given by the smugglers, besides other advantages —as more particularly stated in the patriotic essays in your Magazine, called forth by the patriotism of Sir George MacKenzie of Coul, Baronet. The benevolence of the proprietors need not be alarmed for the fate of these poor tenants, who supported them with such industry; for they must be much happier as servants to a south country farmer of capital, than they can possibly be in their present situation; because they will be then really independent. At present they only possess the semblance of it. The evils of the Excise laws will not then be felt. Then, and not till then, will the gentlemen of Ross-shire have their rents punctually paid by a virtuous, industrious, and thriving tenantry.

The resolutions of the Ross-shire gentlemen are annexed; and it will be obliging, if they are presented in company with this letter. I am, your obedient servant,

A Ross-shire Farmer.

At the Annual General Meeting of the Freeholders, Commissioners of Supply, and Justices of the Peace of the County of Ross, which held at Tain on 8th October 1806—whereof Sir Charles Ross of Balnagown, Baronet, was chosen Preses.

Upon a motion of the Convener, the Meeting took into their consideration the state of legal distilleries within this county, as forming a part of the Highland district in the acts of Parliament passed for regulating the distilleries in Scotland.

When, after the opinions of the gentlemen present were delivered, it was unanimously resolved,

1st, That while the laws for regulating the distillery in the Highland Counties remain on their present footing, the public must lose great advantage from what is in itself an undeniable good object for taxation.

2d, That the discouragement imposed on the fair trader by the high license duty paid on the stills, in proportion to the small quantity they are permitted to manufacture, when added to the severity

rity of the regulations with which they are fettered, makes dangerous for any person to subject himself to the risk of ruin by embarking in it, that few or no licenses are taken and in consequence of the demand for the article of spirit in some degree a necessary of life, it operates as an irresis incentive to the smuggler, or unfair trader, to carry on the at all hazards.

3d, That by an appeal to the Honourable Board of Exci Edinburgh, it will be seen, that an immense additional exp is laid on the public, in the salaries, and additional numb officers employed in the detection of illegal distillation, e shilling of which might be saved, by putting the legal disti on such a footing as might induce persons of character and tal to carry on the trade, so as to afford themselves a fair p on their capital, and recompense for their industry.

4th, That a certain, and they apprehend a very conside revenue, would be derived to the public from the number c censes that would be taken out, which, when added to the ing that might be made from abridging the number of off employed, would be found to make no trivial addition to th venue returned by the Honourable Board of Commissione Scotland.

5th, That from the many risks the smugglers now run of tection, which subjects them to great losses, and often ind their utter ruin, if the trade were carried on by licensed disti as they could supply the demands of the country at a mod price, the only resource the smuggler now has would be en cut off; it being clear, that if he cannot sell at within a trifle of the price the legal distiller does procure, he cann any other means prevent his own utter destruction, when d tion takes place; from which it follows, that if the legal disti was encouraged, it would prove a more certain means of th tal suppression of illegal distillation, than if all the Excise cers were planted within the Highland district.

6th, That although this meeting can throw no blame o Honourable Board of Excise, for the great exertions they made towards the suppression of illegal distillations, by ser such a multiplicity of officers of various descriptions for that ose amongst them, they are fully satisfied, that while th ours necessarily practised serve to sour and estrange the in ants, and has an evident effect in the relaxation of their m by making them make light of the obligation of an oath on occasions, that they have had very little effect towards the proposed, as they must themselves allow; from which it appear evident, that the only proper remedy for so great a

is to be found in placing the legal distiller on such a footing, as that he can beat the smuggler out of the field, by his being able to undersell him in the open market.

7th, That the proprietors of land and farmers have great reason to complain of the losses they have been subjected to, by the additional duties which have been imposed upon malt a few years ago, whereby a certain ratio that had been observed betwixt the duties in Scotland and England, was departed from, and a new ratio adopted, which has deprived them of any chance of market, except in times of great scarcity; and unless the legal distillers amongst themselves are encouraged to consume their barley, they must either allow it to rot in their granaries, or leave it out from their rotation of crops, to the great prejudice of any improved system of agriculture.

8th, The meeting are further sensible, on a full examination of the act last passed for the regulation of the duties in the Lowland and Highland districts of Scotland, that it may appear, on a first view of the subject, that great lenity and moderation had been observed in proportioning them on the Highland district; but that the contrary is the fact, is fully established, from the very small and insignificant number of licenses that have been applied for within that division of the kingdom, notwithstanding the demand which must necessarily be for that article of consumption; and that every aid and protection which the power of Government can devise is ready to be afforded them for that purpose, as well as to suppress all rivals in the illegal distillation.

9th, That this meeting have no wish to interfere with the great distillers in the Lowland district in any one respect; they only wish for the liberty of distilling their own grain for their own use amongst themselves; they have no objection that every restraint which the ingenuity of these gentlemen can invent, be enacted to prevent the distillers in the Highland district interfering with their market beyond the limited line, and that they should be, under the severest penalties, prevented from using any other grain for their distillation than that which grows within their respective counties, or within the limits of their own district.

10th, The meeting are impressed with the belief that their grounds of complaint are so strong, and may be made so apparent to the Honourable Board of Excise in the first instance, and to the Lords Commissioners of the Treasury afterwards, particularly when it is made to appear, that by relieving a considerable part of the country of a great hardship, if not a real grievance, the revenue must be greatly benefited, the practice of illegal

gal distillation entirely suppressed, and the discontents of a portion of his Majesty's loyal subjects totally removed.

11th, The meeting appoint Charles Ross Esq., advocate, John Anderson Esq., and Kenneth MacKenzie Esq., writers to the signet, John Cockburn Ross Esq. of Shandwick, Donald MacLeod of Geanies Esq., and Walter Ross of Rigg—a committee of their number, to collect information on this subject, to correspond with the committees from other counties, and to concur with them in whatever measures may be deemed most expedient to bring the desirable object to a happy issue. And they direct that these resolutions be printed in the Edinburgh newspapers.

Extracted from the principal minutes by

DONALD CAMERON, Clerk of Police.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Account of an accidental Improvement in Agriculture.

SIR,

AN ancient painter, by an angry fling of his pencil, produced by accident what he had failed to accomplish by design. The farmer, too, may at times profit by accident. Last spring I had sown with oats a field of about four acres, meaning to lay it down in a few days with grass-seeds for pasturing. But the weather set in so dry, that I delayed sowing the grass-seeds till there was some appearance of rain, when the corn was about five inches long. Having then cast the seeds into one half of it, my roller broke as I began to work with it; upon which I yoked a couple of harrows to cover the seeds at the expense of the corn, a great deal of which was torn out of the roots, and the whole so apparently damaged, that I allowed the rest of the field to remain as it was. In two or three weeks, however, the part harrowed, though formerly the worst of the field, could be distinguished at a distance, by its rankness and deep green hue, and, in harvest, turned by far the better crop. From this circumstance, I am led to think that harrowing may prove an easy and valuable kind of hoeing in the broadcast husbandry. I have stated the fact, and leave it to such as choose to make so easy an experiment, on at least a few ridges of a field, and follow it afterwards, or not, as they shall see cause. I am, &c.

S.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Hints which may be Useful when Trees are to be Planted.

SIR,

THE numerous and valuable plantations which now begin to beautify and clothe the naked districts of this part of the kingdom, and which it is sincerely to be hoped will long continue to increase, renders an apology for the communication of a fact, in all probability new, unnecessary.

When lately on a visit to a friend, a considerable proprietor in the Highlands of Perthshire, I had occasion to observe a very remarkable difference in the qualities of *ash* and *plane* timber, from which I was led to form a very superior opinion of the value of the latter.

In a very old avenue, one side of which was composed of ash, the other of plane, in cutting a number of both kinds, the *ash* were uniformly found to be completely rotten and useless, fit only for firewood; the *planes* to be perfectly sound, and the finest timber I ever saw.

The soil on which they grew appeared to me equally favourable for both species, being a sandy loam, neither wet nor dry in any great degree, on a gravelly subsoil, the situation warm and sheltered, of a southern exposure. Their actual age I cannot precisely state; but am certain they were not under eighty or one hundred years old, and they were well known to have been planted at the same period.

It occurs to me that one or two useful hints may be derived from this fact, as it tends to shew, in the first place, the impropriety of allowing any timber to stand beyond that period, when it becomes fit for use, by which mistake, as in the present instance, two *generations* of that useful wood the ash might have been gained by the proprietor and the country, where, in fact, it was a total loss to both; and, in the second place, demonstrates so very superior a degree of durability in the plane, as should render it universally, or at least more generally, adopted in situations, where trees are planted to decorate a lawn, or in any other way intended for *fixtures*. I am, with much respect, your obedient servant,

A—— F——.

FOR

FOR THE FARMER'S MAGAZINE.

Questions discussed by the Holderness Agricultural Society, from 2d December 1795, to 3d December 1804, inclusive.

Whether machinery for expediting agricultural labour is beneficial to the community or not?—Discussed 2d December 1795.

Is Holderness particularly deficient in any part of its rural economy, and is the tillage land therein capable of any, and what improvement?—Discussed 7th March 1796.

What are the best means of improving and fertilizing poor soils, situated where lime and manure cannot (but at too great an expense) be procured?—Discussed 1st June 1796.

What is the best rotation of crops in Holderness in general, and how far is fallowing necessary there?—Discussed 7th September 1796.

Whether Holderness, in general, be sufficiently drained; and if it be not, what are the best means of effecting a more perfect drainage?—Discussed 7th December 1796.

The comparative merit of the broadcast and drill husbandry?—Discussed 9th March 1797.

What breed of sheep is the best adapted to Holderness; what diseases are the Holderness sheep most subject to, and what are the proper remedies applicable to their diseases?—Discussed 7th June 1797.

What is the cause of the smut in wheat, and what is the best preventive thereof?—Discussed 4th October 1797.

What kind of fence is best adapted to the different soils and situations in Holderness, and what advantages or disadvantages attach to each kind of fence?—Discussed 6th December 1797.

What proportion of labour in agriculture is now performed by oxen, compared with what is performed by horses, in Holderness? Would a more general use of oxen as draught cattle be advantageous to the Holderness farmers, and what is the best mode of training and harnessing, &c. of oxen?—Discussed 5th March 1798.

What is the best season for manuring grass land, what is the best manure, and what quantity is the most proper?—Discussed 5th June 1798.

What is the foundation of the opinion that has long and generally prevailed, that it is improper in the breeding of cattle, to suffer the same lineage or family to produce their kind, and

is

is there any solid objection against breeding from cattle, however near their consanguinity?—Discussed 5th September 1798.

What kind of horse is the most profitable to the Holderness Breeder, and what breeds are the best for saddle, coach, and cart horses? And what breed of swine is the most profitable to the Holderness breeder?—Discussed 5th December 1798.

On the disease called the Felon; or, (as it is provincially termed) the segging in cows.—Discussed 6th March 1799.

What is the best mode of managing meadow ground, what is the best criterion for knowing when to mow grass for hay, and what is the best mode of making hay? What is the best criterion for knowing when to cut the different kinds of corn growing in Holderness, and what are the earliest stages in which corn may be cut without injury to the grain?—Discussed 5th June 1799.

What is the best kind of wheat to cultivate in Holderness? And what is the best kind of turnip for the feeding of cattle and sheep? And what is the most advantageous mode of giving them the turnips?—Discussed 2d September 1799.

What plants are best adapted to form artificial pastures on the several kinds of soil in Holderness? What weeds are most troublesome and noxious in the fields and pastures therein? And what are the best modes of eradicating or destroying weeds?—Discussed 9th December 1799.

What is the proper time, generally speaking, for putting ewes to the ram? What is the cause of the great mortality amongst ewes soon after the time of their lambing; and, particularly, is it occasioned by an infectious disorder; and can the mortality be prevented or lessened by any outward application or medicine? What is the most proper age for castrating lambs? And what is the best mode of performing the operation, and of subsequent treatment?—Discussed 3d March 1800.

In the management of summer pastures, it is the practice, in some districts to have three divisons; one for feeding stock, another for lean stock; and to keep the third to freshen for the feeding stock. Would such management be advantageous in Holderness? And, if any, what benefit would result therefrom? What is the best food for wintering yearling calves, and the most economical method of giving it them? What are the most effectual means of preventing the flyblow or maggots in sheep?—Discussed 9th June 1800.

To what crops, and to what extent is the grub injurious to the interest of the agriculturist? Of what species of the insect

tribe is it? Can its depredations be lessened or prevented? And, if they can, by what means?—Discussed 1st September 1800.

What kinds of natural and artificial grasses form the best pastures for sheep in Holderness? And by what means can the growth of such grasses be best promoted? And what are the cheapest and best sorts of winter food for sheep?—Discussed 8th December 1800.

What kind of grain, and what rotation of crops are best adapted to poor strong clay land? Is it advantageous to use lime on such land, and particularly before it is laid down for pasture? And, if it is so, in what proportion per acre should it be used?—Discussed 2d March 1801.

What proportion of the several farms in Holderness ought to be in tillage, so as to enable the occupiers thereof to cultivate the same with most profit to themselves, and the greatest advantage to the community?—Discussed 8th June 1801.

Can any method of giving straw to store cattle be adopted, whereby less may be used, and at the same time more manure procured than is the case from the present methods now practised in Holderness?—Discussed 14th September 1801.

What are the best means, regard being had both to quantity and quality, of converting hay, straw, &c. into manure, comprising the whole process, from the consumption of the hay, straw, &c. until it is mixed, if adviseable, with other substances, and properly prepared to be laid upon the ground? What is the best form of a stack, so as to obtain the two great and only essential objects in the art of stacking, *despatch* and *security*?—Discussed 7th December 1801.

No question was discussed at the meeting held 1st March 1802.

Do crops sown on clover stubble often fail, and thereby disappoint the farmer's expectations? And, if so, to what causes are such failures to be attributed?—Discussed 7th June 1802.

The Rev. Edmund Cartwright, in his essay on the means of improving the cultivation of strong land, suggests, 'that a succession of green and corn crops are equally practicable on strong as on light lands, and that such is the best possible mode of cultivating strong soils:' Is such a system the best for strong soils?—Discussed 13th September 1802.

Of what is the soil deprived when it is said to be exhausted?—Discussed 6th December 1802.

Are dried vegetable substances intended for the food of animals, such as hay, straw, clover, &c. improved by a certain degree of fermentation, or what is called sweating in the stack? What

What is the product of such fermentation? Why is it beneficial, and why is an excess of it injurious?—Discussed 14th March 1803.

Whether it may not be more economical for farmers in Holderness, to use green fodder for cattle in winter than hay? And, if so, what kinds of green fodder are best adapted for the purpose, and how can they be best preserved?—Discussed 6th June 1803.

What are the best modes of preserving, improving, and applying fold-yard manure? And what is the cause of turnips growing with what are provincially termed fingers and toes, (that is, with roots somewhat resembling those parts of the human body); and can turnips be prevented from so growing by any, and what mode of management?—Discussed 12th September 1803.

What kinds of wheat are the best adapted to the soils in Holderness; and which are the least affected by the mildew; and to what cause is the mildew to be attributed?—Discussed 5th December 1803.

Is it most adviseable, in laying down land for permanent grass, to sow the seeds with a crop of corn, rape, or on a clean summer-fallow?—Discussed 12th March 1804.

What kinds of turnips are the most proper for the different soils in Holderness? And what are the best modes of preparing the different soils? What is the most proper season for sowing the seed? And is the broadcast, or drill husbandry, the preferable mode?—Discussed 4th June 1804.

What is the best mode of preparing land in Holderness for a crop of wheat? What kind of wheat is best adapted to the soil? And what time of the year is most proper for sowing the seed? Is it (as some imagine) a fact, that the plants of wheat sown early in the season are feeble, and turn yellow in the spring? And, if so, to what cause is it to be attributed?—Discussed 10th September 1804.

Is there any good reason for the generally received opinion, that a crop of rape, standing for seed, is particularly injurious to the land?—Discussed 3d December 1804.

NOTE BY THE CONDUCTOR.

Should the Holderness Society, or any of its members, be pleased to transmit us a concise state of the arguments used in discussing each or any of the above questions, a favour of considerable magnitude would be conferred. N.

FOR THE FARMER'S MAGAZINE.

An Account of Clothing Wool sold at Dublin, December 1806.

				per lib.
Marquis of Sligo,	large bag,	South Down, sold for	L. 0	3 2
Ditto,	small do.	do. - - -	0	2 1
Mr Wynne,	large do.	do. - - -	0	2 9½
Ditto,	small do.	do. - - -	0	2 6
Lord Farnham,		Exmoor - - -	0	1 5
Ditto,		Spanish - - -	0	2 2
Ditto,		Spanish and Ryland	0	3 9½
Ditto,		Ditto and Farnham -	0	1 6
Mr Grierson		South Down - -	0	3 4
Mr Trench		do. - -	0	2 6½
Mr Thomas Trench		do. - -	0	2 9½
Mr F. Trench		do. - -	0	2 7
Ditto,		do. - -	0	2 2½
Mr Trumble		Ryland - - -	0	2 0
Colonel Brown		South Down - -	0	3 7
Mr Woodmason		do. - -	0	2 0
Mr Wynne		do. - -	0	4 1
Rev. Mr Symes,	2 bags,	do. - -	0	4 0
Ditto,	1 do.	Wicklow - -	0	1 8

This sale is made annually, by auction, in Dublin, to the clothiers, by the members of the Farming Society, to ascertain the progress and comparative merit of the different breeds.

The following is an account of the prices of wool sold by General Robertson at Lude, in the midst of the Grampians, in Perthshire, in August 1806. Wholesale price to the wool buyer, but without any competition, such as in the Dublin sale.

Spanish, per lib. - - - - - - -	L. 0	5	0
South Down ram and Spanish ewe, 1st cross -	0	5	0
South Down, per stone - - - - -	2	2	0
White Cheviot wool, per do. - - - - -	1	10	0
Laid do. do. do. - - - - -	1	5	0
Half breed between the Cheviot and black-faced -	0	14	0

The General has 38 tup lambs of the Spanish and Cheviot, and 33 ewe lambs. He goes on also with breeding the pure Marino, which, for three years he has had them in the Highlands, have thriven better than they did at Kew, and affords a presumption, that this breed is not affected by the coldness of the climate. It is remarkable, that Lord Farnham's Spanish wool sold at only two shillings and twopence per lib., while General Robertson's sold for five shillings. R. F.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

True State of the Proceedings in the Case of Culsamond.

SIR,

THERE appeared in your valuable Magazine of May 1806, an abstract of the judicial proceedings, in the case of the minister of Culsamond against his heritors, with a reply thereto, in the November number, by a Kirk Officer; and as the matter is not fully stated in the first, and very much misrepresented in the last, it is presumed, that a fair and just account thereof will not be unacceptable to a very numerous class of your readers.

The heritors of Culsamond, instead of refusing the necessary repairs, offered fully more, for the sake of peace, than they either thought necessary, or than were afterwards allowed by the Court. But the question originally was, whether the Presbytery had a right, without enlarging the accommodation, to order the whole partitions of the inside of the manse to be altered, and the stair brought from the back to the front of the house, merely to suit the caprice of the incumbent? The present, though the fourth incumbent in the course of twelve or fifteen years, and, more than that, a single man, was the only one desirous of alteration; whilst the three others, and the last of them a married man, with a large family, were satisfied with the division and accommodation of the manse as it stood; and the heritors, considering the wanton and unnecessary expense which would have been thereby incurred, besides the injury that must necessarily have accrued to the manse, resolved to oppose the measure. Finding themselves unable, after repeated trials, to carry the point before the Supreme Court, the minister and Presbytery seemed determined to make up for the disappointment, by putting the heritors to as much expense as possible; and accordingly, in addition to two new rooms, obviously neither necessary nor wanted, but which they had artfully induced the heritors to offer with a view of making up the matter, they decerned for two large barns to a glebe of a few acres, an expensive henhouse, and a garden wall of stone and lime five feet three inches high, coped with stone; on which, when appealed to the Court of Session, their Lordships were pleased to give the following interlocutor, dated Edinburgh, 3d July 1805. 'Upon the report of Lord Glenlee, and having advised the mutual informations for the parties; The Lords find the charger is not entitled to the kiln and kiln barn, nor to the henhouse; and that the heritors are not bound to build or repair them, nor to enclose the garden with a stone and lime wall, but only with a wall of dry stone: And with these va-

riations, Find the letters orderly proceeded: Find the suspenders liable in the expense of extract, but in no other expense; and decern; and remit to the Presbytery to proceed accordingly. (Signed) ILAY CAMPBELL, I. P. D.' From the above, your readers will easily judge of the correctness of the Kirk Officer, in stating, as sustained by the Court, because left to their discretion, that part of the Presbytery's decreet, which allowed the minister a stable and byre, sufficient for holding 14 horses and black cattle, being more than double of what the glebe was capable of maintaining, with a cart shade and grain loft, both of which were originally erected by the present incumbent's predecessor. The last is still as when first put up; and the cart shade has been indeed renewed by the heritors, not from supposing the minister entitled to any thing of the kind, but because they were obliged to make another use of the old one, and wished to avoid endless litigation, if possible. In the same way, the Kirk Officer goes on to boast of eight fire rooms of large dimensions; although, in their pleadings before the Lords, they insisted, vehemently, that the old manse contained only four fire rooms and two garrets, now converted into eight, with the help of the two new rooms. The offices were not ordered to be slated; that was only done in consequence of their being in such a high and exposed situation that thatch did not answer: besides, slates could be had at an easy expense, the place being within two miles of slate quarries. Neither were the garden dikes specified to be five feet three inches high, which is a mere assumption of the Kirk Officer's; as every diker knows, that, without lime, they could not be put up to such a height of ordinary stones, so as to be secure from falling; of which they were so sensible themselves, that the minister, with concurrence of the Presbytery, has since agreed to put up stone dikes, to the satisfaction of all parties, for 20l. Sterling. It seems rather singular, that the Presbytery's having suffered themselves to be so much duped by their workmen, as to decern a garden dike, of upwards of sixty pounds value, to be more for the advantage of the heritors than one of twenty, and, on pretence of the necessity of a kiln, to decern two large barns for a small glebe, when they knew that their barn of 42 feet long had previously a kiln in one end of it, should be adduced in proof of their impartiality. The Kirk Officer is not more fortunate in his allusion to the case of the parish of Botriphny; it being, partly from the causes he states, one of the very few, out of the great number of decisions given by the Court, against which an appeal has been taken to the House of Peers. He concludes with deprecating all resistance to the *moderate claims* of a minister, and the equally *moderate decrees* of a Presbytery (with what justice, in

in the present case, your readers will easily judge from the above), and hangs out, at great length, by way of terror, the expenses incurred by the heritors of Culsamond. These heritors, however, have this comfort, that whilst they vindicated their own just rights, they at the same time elucidated several points which may be of some service to their fellow heritors, as well as the clergy themselves, though, unfortunately, to all appearance, not much relished by the Kirk Officer; and if unavoidably led into some expense by the successful resistance of unwarranted encroachment, they have the satisfaction to think, that their adversaries, independent of losing the different points at issue, have also borne their part.

By giving the above a place in your first Magazine, you will much oblige

A FRIEND TO TRUTH.

[We have made arrangements which will enable us to furnish our readers regularly with an ample and correct account of the proceedings of the SMITHFIELD CLUB; an institution well calculated to encourage the breeding and feeding of cattle, sheep and swine, and which is supported and countenanced by the most eminent agriculturists in the island. In future, these accounts will be presented in the February number, though circumstances, unnecessary to be mentioned, occasioned the following to be delayed longer than was consistent with our wishes.]

FOR THE FARMER'S MAGAZINE.

Account of SMITHFIELD CLUB, and the Proceedings at last Christmas Show.

THE late *Joseph Wilkes Esq.* of Measham in Derbyshire, in he year 1798, conceived the idea of establishing a society, for he purpose of encouraging, by premiums to be distributed at he time of the principal market in Smithfield, London, for cattle ntended to furnish the tables of the inhabitants during the Christnas festivities, the rearing and fattening of animals in a manner *ore economic and expeditious* than had generally been practised vith the large cattle, which the increasing rage for fat and large oints of meat, beef in particular, accumulated in Smithfield mar-et, especially about Christmas, annually. Through the laudable xertions of this gentleman, the late and lamented *Duke of Bedford, Lord Somerville*, the *Earl of Winchelsea, Richard Astley, John Wester, John Ellman, Samuel Stone, Arthur Young*, and about twenty ther gentlemen, well known as considerable breeders and feeders f cattle, were assembled at what is usually called the Christmas

Market in Smithfield, on Monday the 17th of December 1798. These patriotic individuals retired to a tavern, and requesting the assistance of *Sir Joseph Banks*, *Thomas William Coke Esq.*, *Thomas Crook*, *Joseph Frost*, and thirteen other well known agriculturists, formed themselves into a society, to be denominated the SMITHFIELD CLUB; to consist of an indefinite number of subscribers, of *half a guinea* annually, expressly fixed so low, in order to embrace and interest a large body of practical farmers and graziers in its proceedings and success: the affairs of the Club to be managed by a committee of twelve subscribers, of which the Duke of Bedford was chosen president, and the offices of secretary and treasurer were undertaken by Mr Arthur Young. Printed proposals were shortly after circulated and advertised, for receiving cattle, sheep and pigs, in a sale-yard in Smithfield, engaged for the purpose, to be publicly exhibited in December 1799, and examined by gentlemen appointed judges for that purpose, who were to award the prizes offered, to the owners of the most approved animals, in each class: the same to be publicly adjudged and delivered to the successful candidates, at an annual dinner of the subscribers, held at the conclusion of the show; on condition of their furnishing to the secretary, an account, duly certified, of the dead-weights of offals and quarters of their animals, immediately on their being slaughtered and weighed. Subscribers from every part of the now united kingdoms appeared; and the affairs of the Club proceeded successfully, until the beginning of the shew of 1800; when a dissatisfaction appearing among the subscribers at some alterations in the conditions of the show, which the committee had found themselves compelled, by recent circumstances, to adopt; the comprehensive mind of its Noble Chairman readily foresaw, that, however uprightly the affairs of the Club might be managed by its committee, the diversified interests and views of the subscribers were likely to lead to similar disapprovals; and his Grace himself formed and digested a plan for the establishment of a permanent Club, consisting of fifty members, subscribing one guinea annually; to be elected, and vacancies filled, by ballot; who might meet, discuss, and direct its affairs, without the intervention of a committee. This plan his Grace submitted to the committee on the 13th, and to the body of subscribers on the 14th of December 1800, after the annual dinner, by whom it was cordially embraced. The Duke of Bedford was chosen president; and the Club, thus new modelled, proceeded, with increasing usefulness and satisfaction to those most competent to judge of the effects of its labours, towards accomplishing the great ends in view. A great number of gentlemen continued, at the annual meeting, to subscribe their half-guineas to the funds of the Club; and gentlemen practically acquainted

acquainted with the subject, continued to express their desire of taking an active share in the business of the Club, in such numbers, as induced the extension, in 1801, of the number of members to 65; in 1802 this was increased to 100; in 1804 to 120; and, in December 1805, candidates still offering in increasing numbers, the Club was declared unlimited in the number of its members; and the soliciting of subscriptions at the annual dinner was wholly discontinued. The number of members at present exceeds 180. The amount of premiums paid in different years is as follows, viz. in 1799, *fifty* guineas; in 1800, *one hundred and twenty;* in 1801, *one hundred and thirty;* in 1802, *one hundred and thirty;* in 1803, *one hundred and ninety-five;* in 1804, *one hundred and twenty;* in 1805, *one hundred;* and, in 1806, *one hundred and fifty* guineas; exclusive of several premiums, which were not paid, on account of the claimants failing to deliver dead-weight returns of their animals; and of several others offered, for which no animals, with proper certificates, were exhibited. On the truly lamented death of the Duke of Bedford, his brother, the present Duke, was chosen to succeed him as president of the Club.

The following summary of the proceedings of this useful Club, since the beginning of December last, will, we trust, prove acceptable to the amateurs of agriculture.

The stewards for the year, *James Backwell Praed* Esq. and Mr *Paul Giblett*, having engaged the spacious and commodious premises of Mr Sadler, a stable-keeper in Goswell Street; on the 10th, and early on the morning of the 11th of December, the cattle, sheep and pigs intended for exhibition, arrived in great numbers from almost every part of England; at nine o'clock, the yard gates were shut; and the judges, previously chosen by the Club, consisting of three gentlemen skilled in the breeding and feeding of cattle, viz. *Lord Somerville*, *Robert Byng Esq.*, and *Richard Astley Esq.*, and of two eminent butchers, viz. Mr *William Lambert*, and Mr *Robert Ayres*, entered on the examination of the certificates of age, work, food consumed, &c. delivered in with each animal, and proceeded to examine and compare the merits of the several animals in each class, agreeably to their printed instructions, contained in the bills and advertisements for the show. The result, or award of these gentlemen, will be seen in the account which follows, respecting the prize cattle.

On Friday morning the 12th, the show commenced, and was this day most numerously attended by noblemen, gentlemen, graziers, salesmen, butchers and others who interest themselves in the breeding, fattening, or sale of cattle. Mr Sadler's lofty and spacious ride and yard, from being wholly covered with glass sky-lights,

sky-lights, was found admirably adapted to the purpose of shewing the animals: at the heads of the several prize animals labels were affixed, mentioning the breeder and feeder's names, and other particulars. Nineteen fat oxen, four cows, thirty-three wether sheep, and five pigs, most of them possessing considerable merit, were shewn as duly qualified by certificates to contend for the prizes: besides these, several individuals who appeared unintentionally to have failed of the precision required in their certificates, or mistakenly sent animals for which no premiums were offered, were indulged in the admission of five oxen, two cows, three sheep, and three pigs. Some remarkably fine and large specimens of Swedish turnips, and of Kohl-Rabi, or Hungarian turnip-cabbage, were shewn; and several notices, interesting to agriculturists, were stuck up in the yard during the show.

At three o'clock this day, a meeting of the Club took place at Free Mason's Tavern, Lord William Russel in the chair, fifteen members being present. At this meeting, a letter was read from Mr *Arthur Young*, stating his inability, on account of other engagements, to attend to the business of the Club, and tendering his resignation of the offices of secretary and treasurer. This resignation being accepted, Mr *John Farey* was elected to the office of secretary, and Mr *Paul Giblett* to that of treasurer. Mr Young's accounts were audited, and the balance thereof, 47*l.* 8*s.* 2*d.*, ordered to be paid to Mr Giblett. The award of the judges was read; and it was agreed, that, instead of the premiums of late for oxen, which allowed all the different breeds to compete for the same premium, five distinct premiums be offered for the principal breeds, viz. 1st, *Hereford*; 2d, *Long-horned*; 3d, *Short-horned*; 4th, *Sussex* or *Kent*; and, 5th, *Devon*; another for any *mixed* breed; and another for *the best* individual exhibited among the above; with a further premium for the best ox or steer, of less weight than the above, of *any breed*. These changes were subsequently much approved, as likely to form a new æra in the useful labours of the Club. Ten gentlemen were proposed and admitted on the ballot as members, viz. Robert Harvey, Colonel Thomas Richard Beaumont, John Wilson Allen, Robert Tubbs, John Plomer Clarke, Samuel Kendal, William Lambert, Robert Ayres, Culling Smith, and William D. Ground. The members present dined together, and adjourned to the 15th, at the conclusion of the show; when Lord William Russel being again in the chair, and 19 members present, seven gentlemen were balloted for and admitted members, viz. John Ellman jun., Sir Henry Lippincot, Earl Thanet, Stephen Thornton, William Francis Woodgate, William Ford Burton, and John Billingsley. Instead

stead of choosing vice-presidents of the Club, as had been suggested, it was resolved to thank Lord William Russel for his able services in the chair, since the departure of the noble president to assume the government of Ireland; and earnestly to request his lordship to continue to preside, until his brother's return to England. At the conclusion of this meeting, the annual dinner took place in Free Mason's Hall; of which the members and their friends, to the number of near 300, partook. Lord William Russel was in the chair; and, after the usual routine of toasts, read the judges' award, publicly announced the names of the successful candidates, and briefly recapitulated the business which had been transacted at the meetings, as above: after which, many toasts and sentiments, highly grateful to the cultivators of the soil, were drunk; and at a late hour the Club adjourned to the next day.

Tuesday, 16th December, a meeting took place at Free Mason's Tavern, Lord William Russel in the chair, 9 members present, when fifteen gentlemen were ballotted for and elected members, viz. Hugh Hoare jun., John Martin Webber, James Adams, Peter Green, Samuel Chandler, Joseph Lucas, Eagles Godfrey Blake, James Leader, George Leyburn, Simon Payne, John Farnham, Thomas Gibbs, ——— Harris, G. B. Prowse, and Sir William Wake.

Lord Somerville and *Mr Henry King, jun.* were appointed inspectors of the dead-weights of the animals, lately shewn for the prizes. Several resolutions were passed, and ordered to be included in a printed bill, and circulated, as the conditions of the next shew. (See the printed bill.)

The following are the correct particulars furnished to the secretary of the Club, respecting the ages, work, feeding, &c. and the live-weights, dead-weights of offals and quarters, &c. of the animals which gained prizes; and of a cow and three sheep, Classes 5th and 6th, belonging to Mr John Westcar and Reverend Thomas Plaskett, which were exhibited.

CLASS I.

For Beasts of 160 stone weight (of 8 lib. avoirdupois) and upwards, that have been worked Two Years at the least, and Fattened without Corn of any kind.

FIRST PRIZE *of Twenty Guineas*, for Mr John Westcar's Dark-Red Hereford Ox.

The certificate of Mr *Westcar* of Creslow, near Aylesbury, Bucks, attested by Mr *John Reads*, near Hardwick, and Mr *Thomas Wells*, near Whitchurch, Bucks, states that this ox was bred by Mr Samuel Tully of Huntingdon, near Hereford; was regularly worked for more than two years, ending the 14th of January

ary 1806; was then put to fatten, being in fair working condition: he ate neither corn or oil-cake until the 12th of April 1806; from the 1st of October to the 30th of November, he ate no other food but 1160 lib. of hay, and 400 linseed cakes.

According to the return of Mr *Paul Giblett*, No. 138, New Bond Street, who killed this ox, it weighed as follows, viz.

	st.	lb.
Carcase or quarters	229	3
Fat	28	5
Hide and horns	16	2
Head and tongue	7	0
Feet	4	5
Heart and lights	2	4
Liver	2	5
Entrails (empty)	9	2
	300	2

SECOND PRIZE *of Ten Guineas.* Not claimed.

CLASS II.

For Beasts of 140 *Stone and upwards, fattened without Cake or Corn.*

FIRST PRIZE *of Twenty Guineas*, for Mr John Westcar's Light-Red Hereford Ox.

The certificate of Mr *Westcar* of Creslow, Bucks, attested by Mr *John Reads*, near Hardwick, and Mr *Thomas Wells*, near Whitchurch, states, that this ox was bred by Mr Williams of Kinghill, near Hereford; was put to fatten on the 6th of January 1806, being then in fair working condition; since which he has eaten no other food but grass, hay and turnips.

According to the return of Messrs *Saunders* & *Draycott*, of Watford, and of King's Langley, Herts, who killed this ox, the weights were, of

	st.	lb.
Carcase	154	0
Fat	15	0
Hide and horns	16	5
Head and tongue	5	0
Feet	3	3
Heart and lights	2	2
Reed	2	1
	198	3

SECOND PRIZE *of Ten Guineas*, for Mr John Edmond's Red Hereford Ox.

The certificate of Mr *Thomas Jeffries* of Pembridge, Herefordshire, attested by Mr *Edward Jeffries jun.*, states, that this ox was bred by Mr Thomas Jeffries; was regularly worked in hus-

bandry

ness for more than two years, ending the 9th of January 1806; was in rather low condition when sold to Mr John Edmonds of Whelford, near Fairford, Gloucestershire, on the 13th of January; was then rising five years old. Mr *Edmond's* certificate states, that he was fattened on grass and hay only.

According to the return of Mr *William Watkins*, No. 9. Market Street, Newport Market, who killed this ox, the weights were, of

	st.	lb.
Carcase	154	4
Fat	17	3
Hide and horns	11	0
Head and tongue	6	0
Feet	3	0
Heart and lights	2	0
Tripe and reed, &c.	5	0
Entrails (empty)	7	0
Contents of entrails and blood	12	0
	217	7

CLASS III.

For Beasts of 100 to 140 Stone, fattened without Cakes or Corn.

FIRST PRIZE *of Twenty Guineas*, for Mr Samuel Chandler's Brown Devonshire Ox.

The certificate of Mr *Chandler* of Moorton near Aylesbury, Bucks, attested by Mr *William Flowers* of Hardwick, and Mr *T. Woodman* of Stone, states, that this ox was bought at Sampford fair in Devonshire, on the 28th of April 1806 (was then five years old); after a drift of 170 miles, he reached Moorton on the 7th of May in a lean state (having worked through the barley seeding), and was fed on grass until the 27th of October; after which, his food was hay and Swedish turnips only.

According to the return of Messrs *Thomas Price & Son*, of Kingsgate Street, Red Lion Square, who killed this ox, the weights were, of

	st.	lb.
Carcase	119	6
Fat	17	3
Hide and horns	12	1
Head and tongue	4	5
Feet	2	7¼
	156	6¼

SECOND PRIZE *of Ten Guineas*, for Mr John Westcar's Yellow Hereford Ox.

The certificate of Mr *Westcar* of Creslow, Bucks, attested by Mr *John Reads*, near Hardwick, and Mr *Thomas Wells*, near Whitchurch,

Whitchurch, states, that this ox was bred by Mr Williams of Thinghill, near Hereford; was put to fatten on the 6th of January 1806, being then in fair working condition; since which he ate no other food but grass, hay and turnips.

According to the return of Mr *Robert Gudgin* of Bushey, Herts, who killed this ox, the weights were, of

	st.	lb.
Carcase - - - -	138	5
Fat - - - - -	21	0
Hide and horns - - -	14	4
Head and tongue - -	5	4
Feet - - - - -	3	0
Entrails, &c. - - -	15	0
	197	5

CLASS IV.

For Steers under Four Years Old.

PRIZE *of Ten Guineas*, for Mr Samuel Chandler's brindled half-bred Devonshire Steer.

The certificate of Mr *Chandler* of Moorton, Bucks, attested by Mr *William Flowers* of Hardwick, and Mr *T. Woodman* of Stone, states, that this steer was bred by Mr Chandler; came three years old on the 11th of May 1806; he went with Mr Chandler's breeding and store-stock until the 10th of May; and being then in store condition, was put to fatten on grass, hay and oil-cakes.

According to the return of Messrs *Thomas Price & Son*, of Kingsgate Street, Red Lion Square, who killed this steer, the weights were, of

	st.	lb.
Carcase - - - -	129	0
Fat - - - - -	16	6
Hide and horns - - -	11	5
Head and tongue - -	4	3
Feet - - - - -	3	0
	164	6

CLASS V.

For Cows which have borne three or more Calves, and have been fattened without Corn.

PRIZE *of Ten Guineas*, for Mr Joseph Lucas's Red and White short-horned Cow.

The certificate of Mr *Lucas* of Rowsham, Bucks, attested by Mr *Benjamin Aris*, and Mr *T. Purcell* of Wingrave, states, that his cow bore two calves previous to 1805, and continued in milk until the 8th of June 1805; calved on the 18th of [illegible], and was afterwards

afterwards milked until the 5th of January 1806, being then in a very lean state; she was kept on hay until May, and on grass from then till the 16th of August; since which she was kept on hay and oil-cake.

According to the return of Messrs *Philip & William Smith*, No. 8. Great Chapel Street, Westminster, who killed this cow, the weights were, of

	st.	lb.
Carcase - - - -	173	2
Fat - - - - -	25	0
Hide and horns - - -	13	1
Head and tongue - - -	5	7
Feet - - - - -	4	0
Heart and lights, &c. - -	2	4
Tripe and reed, &c. - -	8	0
Entrails (empty) - - -	5	4
Contents of entrails and blood	15	6
	253	0

Mr John Westcar's dun-coloured short-horned Cow.

The certificate of Mr *B. Attenbrow*, of Stratton-Audley, Oxfordshire, states, that this cow was bred by him; brought forth a calf in December 1803, another in July 1804, and a third in March 1805, and was sold in March 1806 to Mr Westcar. The certificate of Mr *Westcar* of Creslow, Bucks, attested by Mr *John Reads* near Hardwick, and Mr *Thomas Wells* near Whitchurch, states, that this cow was purchased of Mr B. Attenbrow, on the 7th of March 1806, being then in fair store condition, and was since fed on grass, hay and cakes.

According to the return of Mr *Draycott* of King's Langley, Herts, who killed this cow, the weights were, of

	st.	lb.
Carcase - - - -	179	2
Fat - - - - -	18	0
Hide and horns - - -	13	3
Head, tongue and heart -	7	4
Feet - - - - -	3	0
Entrails - - - -	9	4
	230	5

CLASS VI.

For One-Year Old long-woolled Wether Sheep, three of one Man's Breed, fed without Corn or Cake.

Premium of Ten Guineas, for Mr Anthony Leclimere's Leicester and Ryeland Wethers.

The

The certificate of Mr *Lechmere* of Rydde, near Worcester, tested by Mr *John Reads*, near Hardwick, Bucks, and Mr *Terret*, near Upton, Worcestershire, states, that these sh were bred by Mr Lechmere, were one-year old last lambing-ti their food was grass only, until November 1806; since wh they have ate a few turnips.

According to the return of Mr *Paul Giblett*, No. 138, Ne Bond Street, who killed these sheep, the weights were, of

	Sheep, No. 1.		*Sheep, No.* 2.		*Sheep, No*
	st.	lb.	st.	lb.	st.
Carcases or quarters -	14	3	14	7	15
Heads - - - -	0	6	0	5¼	0
Fat - - - -	1	6	1	8	1
Skins - - - -	1	6	2	0	2
Plucks (heart, liver and lights)	0	4	0	4¼	0
Entrails and contents -	1	5	1	4	1
Blood, and loss in killing	0	5¼	0	5	0
Live weight (total of above)	21	3¼	21	5	22

The Rev. Thomas Plaskett's n
Leicester Wethers.

The certificate of Mr *Plaskett* of Weston House, near Thai Oxfordshire, states, that these sheep were bred by him, were c year old last lambing-time; they were grazed with others of t same age, at the rate of seven sheep to the acre, in the sa pasture, from the 1st of May to the 15th of November 18(when they were removed to fresh grass, and have been allow 112 lib. of hay, and three bushels of Norfolk white turni sliced.

According to the return of Mr *Henry King* of Newgate Mark who killed these sheep, the weights were, of

	Sheep, No. 1.		*Sheep, No.* 2.		*Sheep, No*
	st.	lb.	st.	lb.	st.
Carcases and heads -	14	1	13	2	12
Fat - - - -	1	5	1	6	2
Skins - - - -	1	7	2	0¼	2
Plucks - - - -	0	4¼	0	3¼	0
Entrails and contents -	1	3¼	1	5	1
Blood and loss - -	1	1¼	1	1¼	1
Live weight (total of above)	20	6	20	3	19

CLASS VII.

Two Two-Year Old long-wooled Wether Sheep, three of one Breed, fed without Corn or Cake.

Fifty of Ten Guineas, for Mr John Edmond's new Le Wethers.

The certificate of Mr *Edmonds* of Whelford, near Fairford, Gloucestershire, states, that these sheep were bred by him; were two years old in March 1806; and were fattened on grass, hay and turnips only.

According to the return of Mr *George Fielding* of Shoreditch, who killed these sheep, the weights were, of

	Sheep, No. 1.		*Sheep, No.* 2.		*Sheep, No.* 3.	
	st.	lb.	st.	lb.	st.	lb.
Carcases and heads - -	21	2	23	4	20	6
Fat - - - - -	2	6	2	0	2	1
Skins - - - - -	2	5	2	7	2	3
Plucks - - - - -	0	5	0	5	0	5
Entrails and contents -	2	1	2	1	1	5
Blood and loss - -	0	7	0	7	0	5
Live weight (total of above)	30	2	32	0	28	1

CLASS VIII.

For One-Year Old short-wooled Wether Sheep, three of one Man's Breed, fed without Corn or Cake.

PRIZE *of Ten Guineas.* No claimants.

CLASS IX.

For Two-Year Old short-wooled Wether Sheep, three of one Man's Breed, fed without Corn or Cake.

PRIZE *of Ten Guineas*, for Mr Henry King, junior, his South Down Wethers.

The certificate of Mr *King jun.* of Plaiston, Essex, states, that these sheep were purchased by him on the 9th of June 1806, being then in a store state, and were fattened on grass only.

According to the return of *Henry King* of Newgate Market, who killed these sheep, the weights were, of

	Sheep, No. 1.		*Sheep, No.* 2.		*Sheep, No.* 3.	
	st.	lb.	st.	lb.	st.	lb.
Carcases and heads -	11	7	12	5	11	6
Fat - - - - -	1	5¼	1	6	1	5¼
Skins - - - - -	1	4	1	7	1	6
Plucks - - - - -	0	4¼	0	4	0	4¼
Entrails and contents -	1	4¼	1	4	1	2
Blood and loss - -	0	8¼	0	8	0	8
Live weight (total of above)	18	2	19	2	18	0

CLASS X.

For Fat Pigs, not exceeding Two Years of age.

PRIZE *of Ten Guineas*, for Mr George Dodd's Black and White spayed Suffolk Sow.

The certificate of Mr *Dodd* of Chenies, Bucks, states, that this sow was bred by him in January 1805, brought a litter of

pigs in March 1806; near the end of April she was spayed; and in May, being then in low condition, was put to feed on barley and pea meal until the beginning of August, since which she has eaten only barley meal.

According to the return of Mr *Dodd*, who had this sow killed for his own use, the weights were, of

	st.	lb.
Carcase with head on	52	4
Fat	1	5
Feet	0	2¼
Pluck	1	1½
Entrails and contents	1	2
Blood, hoofs, hair, and loss in killing	2	2¼
Live weight (total of above)	59	1

This sow lost 38 lib. in weight, from the time of leaving home until she returned from the show, and was weighed and killed as above: the circumference of its fore leg was no more than 5½ inches.

CLASS XI.

For Fat Pigs, not exceeding One Year Old.

PRIZE *of Ten Guineas*, for his Royal Highness the Duke of York's spotted Spanish and Chinese Pig.

The certificate of the agent of his Royal Highness, Mr *Samuel Kendal* of Oatlands, Surrey, states, that this pig was bred from a Spanish boar and Chinese sow, in the beginning of February 1806, and was fed, for the last three months, on barley and pea meal.

According to the return of Mr *Edmund Coterill jun.* of Vine Street, Gray's-Inn-Lane, the weights were, of

	st.	lb.
Carcase	27	0
Head	1	6
Fat	1	2
Feet	0	2
Pluck	0	4
Entrails and contents	1	5
Blood, hoofs, hair, and loss	2	1
Live weight (total of above)	34	4

Tuesday, 3d March 1807, a meeting of the Club was held at Freemason's Tavern, Lord William Russel in the chair; 18 members present. The following gentlemen, graziers, were chosen JUDGES of the next show, viz. *Charles Gordon Gray* Esq., Mr *Thomas Barker*, Mr *William Harrison*, and two eminent butchers, viz. Mr *John Hand* and Mr *Elland*. The treasurer's accounts were examined and allowed; and the balance in hand[illegible]

201

80l. 7s. 6d., was ordered to be transferred to the next year's account. Thirteen gentlemen were ballotted for and elected, viz. ——— Todd, Joseph Pynsent, John Edmonds, James Butler, Sir Watkins Williams Wynne, Francis Sitwell, Morris Birkbeck, Philip Jones Saguers, William Boultbee, George Warrener, Samuel Bayly, James Burton, and Peter Leward Wright. Adjourned to Tuesday the 11th of December next, at 4 o'clock, at Freemason's Tavern.

N. B.—Gentlemen desirous of forwarding the patriotic views of this Club, by becoming members, may signify their intentions to the secretary, Mr *John Farey*, (landsurveyor and agent), No. 12. Upper Crown Street, Westminster.

☞ The intimation from the Smithfield Club, respecting the premiums for this year, is, for want of room, postponed to next Number.

FOR THE FARMER'S MAGAZINE.

Letters from a Young Farmer to his Father.—Class 2d.

(Continued from p. 93.)

May 9. My reſidence with Mr Jamieſon continues to furniſh me with much inſtruction in every branch of rural work; and nothing has occurred to obſtruct or leſſen the enjoyments repeatedly expreſſed in my former letters. My maſter is kind and communicative. My fellow ſervants join in promoting his views to improve and inſtruct me; and hitherto, the ſlighteſt difference has not taken place betwixt me and any of the numerous body of people belonging to this extenſive and well regulated undertaking.

Yeſterday Mr Jamieſon deſired me to accompany him in his ride to examine the winter ſown wheats. The break of one hundred acres after ſummer fallow, upon which graſs ſeeds were lately ſown, looked aſtoniſhingly well. It had been thinly ſeeded, a practice Mr Jamieſon is fond of upon well prepared ground, and was tillering or ſtooling with the greateſt vigour. The ear is already fully formed; though Mr Jamieſon ſays it will not come out of the *ſhot blade* in leſs than a month. He added, that ſmut or black may be obſerved in this early ſtage,—though after the moſt attentive inveſtigation the ſmalleſt ſign of that abominable diſorder could not be diſcovered.

The field of wheat after beans appears to be conſiderably thicker ſeeded than the one after fallow; and the reaſon aſſigned by Mr Jamieſon for the difference was, that upon a bean ſtubble, the plants rarely gather ſo freely as thoſe upon a well wrought fallow

freſh impregnated by manure. I noticed, however, that this field was green and thriving—that the blade was broad, and in moſt places twiſted ſomething like a ſcrew. The ſoil is a heavy loam, which Mr Jamieſon ſays is better calculated for carrying ſuperior crops, both as to quantity and quality, than any of the other varieties.

Our lambs were handled laſt week, and proved to the ſatisfaction of the butcher. He marked one hundred that are to be removed to-morrow. I think Howard ſaid that twenty ſcore were ſold, and that the remainder are to be weaned and *hogged*. They are going with their dams upon rich graſs; and alſo received ruta baga till about the middle of April.

Elliot has got all the turnip land croſs-ploughed, and is now employed at the ſummer-fallow. He has already run over ſome of the bean land with the ſcraper or Dutch horſe hoe, and has ſet apart eight horſes, and the like number of men, for ploughing and cleaning the bean and turnip crops of this year. The beſt and ſteadieſt hands are ſelected for this purpoſe, as it requires dexterity and attention. Of this huſbandry, Mr Jamieſon has promiſed me a full deſcription at a leiſure hour. My *corps* have of late been much employed in ſcouring ditches and cleaning hedges, on which matters Mr Jamieſon beſtows much attention. They are thinned a little by a draft of four to Elliot for his bean ploughs; and theſe were men who had been in habits of receiving ſimilar employment in former ſeaſons.

May 15. Hitherto I have ſaid nothing about Mr Jamieſon's thraſhing machine, therefore ſhall now communicate ſome particulars concerning that noble implement, imparted by my friend Fairbairn, to whom the ſole direction and ſuperintendance of it is entruſted. The machine is wrought generally by water, but has a ſix-horſe impelling power alſo added, which prevents every inconvenience in the drieſt ſeaſon; though, except in the ſummer months, and ſometimes in autumn, a full ſupply of water is rarely wanting. The outer wheel is large, and placed on a gentle declivity, affording the impelling power its full weight, and throwing off the water cleverly, without hanging on or obſtructing the velocity of the wheel by remaining in the tail dam. The barn or houſe in which the corn is thraſhed is of great dimenſions, being fifty feet in length, twenty-four in breadth, and twenty feet in height of ſide-walls above the lower floor, which gives a large ſtowage for thraſhed corn and offal, till time is allowed for cleaning the whole by hand-fanners for the market. This is a convenience, I am told, too much neglected in all the original houſes; and, owing to the want of it, thraſhing muſt often be given up till the offal or *broke* is arranged and put in leſs bulk. I am informed

ned that with wind machines, the want of barn room has been
id a ſerious diſadvantage, as often the impelling power is loſt
re matters can be put in order for uſing it. But to return from
digreſſion. The drum of Mr Jamieſon's machine is three
in diameter, five feet in length, armed with four ſcutchers
eaters, and moves with the velocity of 2400 feet per minute.
work this machine in a complete ſtyle, two men are required
ed the rollers; three girls or boys to open the ſheaves, and
l them to the thraſhing board; the ſame number of women
ddle the grain in the under apartment, and four men to re-
e and ſtack the ſtraw. Generally a woman alſo is employed
ean the chaff-houſe and keep the offal in order. The corn is
ght to the barn as wanted, by two one-horſe carts cloſely
ded. Theſe uſually have full employment; and as a man is
ired to caſt or take down the ſtack, altogether ſixteen hands
two horſes are employed; though, in point of fact, the
:s of two men and three girls can only be charged againſt the
nine, becauſe the work of the others would have been equal-
illed for, had the grain been thraſhed in the old way by

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he ſaving to the owner, when ſuch machines are employed,
, even in the firſt inſtance, be conſiderable; and, when the
:ct way in which the grain is ſeparated from the ſtraw is tak-
nto account, perhaps it may be equal to one fifth or one ſixth
he groſs produce. Fairbairn maintains that the ſaving is
:eit upon wheat, which formerly, when hand flails were uſed,
with every attention ſeldom thraſhed clean, eſpecially in cold
ſeaſons. He adds, that one hundred bolls, or fifty quarters
heat may be thraſhed in a day of eight hours, unleſs the
i has been ſloomed or mildewed; and that with oats a ſtill
er quantity may be turned out. As the machine is provided
two pair of fanners, the grain is, in many caſes, fit for mar-
fter being once riddled; but the uſual cuſtom is to run it
i through hand fanners, Mr Jamieſon being very nice in the
ing of his grain that is to be marketed.

May 20. Yeſterday and to-day ten acres of the turnip break
ſown with ruta baga or Swediſh turnip for late ſpring food.
heavieſt part of the break was ſelected for this purpoſe, Mr
eſon being of opinion, that a ſtrong loam, if incumbent on a
ottom, is better calculated for ruta baga than lighter ſoils.
ground had got three ploughings, was harrowed, rolled
hand-picked, till it was perfectly reduced, and free of root
s, when it was formed into drills with 27-inch intervals
out of the plough. Into the interval of theſe drills plenty of
was depoſited, (Mr Jamieſon ſays that ruta baga requires

almoſt double the quantity of dung that is ſufficient for common turnips); after which the drills were ſplit, and the dung completely covered, when the ſeed-barrow was run upon the top, which finiſhed the operation.

Mr Jamieſon mentioned two particulars which deſerve attention when ruta baga is ſown. *1ſt*, That, in forming drills, the plough ought to go deeper than when common turnips are intended, ſo as a proper bed may be made for the extra quantity of dung given, otherwiſe it will not be ſufficiently covered. *2dly*, That early ſowing is advantageous, ſo as the root may have time to arrive at maturity. He added, that ruta baga is a dull growing plant, making ſlow progreſs in its paſſage; and that, if the field yellow turnip maintain its character, he is not ſure but he will abandon the culture of ruta baga altogether.

The remainder of the break intended for turnips (90 acres) is in a forward ſtate of preparation, and is now harrowed down to procure the vegetation of annual weeds. The plain ſummer-fallow break is croſs-ploughed, and receiving the full advantage of the preſent dry weather. I preſume it will lye in this ſtate till the turnip ſeed is over; though Elliot ſays, if a ſhower comes ſoon, he will give it a trimming with his harrows, ſo as the root weeds may be looſened, and the growth of annuals forwarded. My ſquad, now reduced to ſix men, are turning dunghills from morning to night, except when detached for incidental purpoſes.

May 27. Mr Jamieſon has juſt furniſhed me with a circumſtantial detail of his bean huſbandry; ſome particulars of which muſt be intereſting to you. According to his mode of cropping, this plant generally follows oats after graſs, when the land may be ſuppoſed to be in good condition. He firſt begins by giving it a croſs-furrow, which is taken as deep as the ſoil will allow. The field is then completely water-furrowed; the end-furrows and *gaw*-furrows being digged with the ſpade, in which ſituation it is left for the winter. The moment that the ground can be worked in the ſpring, he harrows it according to circumſtances, but never breaks down too much at once, in caſe a change of weather ſhould enſue. The ploughs are then entered, and one drill-barrow allotted to every three ploughs. By taking a nine-inch furrow, and running the barrow after the third plough, an interval betwixt the rows of 27 inches is left; and ſuch an interval he thinks fully adequate for admitting horſe hoes of every deſcription. About fourteen days after ſowing, the ground is harrowed and water-furrowed; and in this ſtate it remains till the young plants are fairly above the ſurface, when the Dutch hoe or ſcraper is employed, as formerly mentioned.

This is the mode of planting beans hitherto exerciſed by Mr Jamieſon; but he has it in contemplation to change it in an eſſential

tial branch, which, in favourable ſeaſons, muſt undoubtedly be beneficial. Inſtead of ſowing with the firſt ſpring-furrow, which, being taken ebb, does little more than cover the ſeed, he means to give the ground a ſecond deep ploughing in a contrary direction to the firſt one, afterwards to harrow it, and then to form drills of the ſame wideneſs, either by a ſingle furrow or a bout of the plough. In the intervals of theſe furrows he will run the harrow, after which the drills will be ſlit out as in the turnip husbandry, and the ſeed covered. At a ſuitable time afterwards, the harrows will be drawn acroſs and the ground levelled, preparatory to the cleaning proceſs.

It occurred to me, that the time conſumed in ſlitting out the drills might be ſaved, were the harrow drove acroſs when the beans are ſown; but Mr Jamieſon obviated this remark, by ſaying, that a fluſh of annuals was to be dreaded in ſuch a caſe; whereas, by delaying the harrowing two or three weeks, the firſt crop of weeds would in a great meaſure be thereby deſtroyed. The only objection which remains to the plan is, that in ſome ſeaſons ſeed-work may be ſo long delayed as to prove injurious to the crop. In every other reſpect, the propoſed change muſt be attended with important advantages.

We have had a few changes of ſervants at this term, chiefly with thoſe not reckoned the beſt hands, or with whom Mr Jamieſon was diſſatisfied. Indeed, it would appear that he poſſeſſes ſuch a happy knack of managing his people with judgement and dexterity, and at the ſame time pays them ſo handſomely, that ſervants worth the keeping rarely leave him. It is a mark of a good farmer, to regulate his different operations according to the nature of the ſoil in his poſſeſſion; and in like manner, a man of prudence and ſagacity will at all times govern and direct thoſe below him, according to their different tempers and capacities.

June 3. The portion of land intended for yellow turnip is now ſeeded; and the ſeveral proceſſes were preciſely ſimilar to thoſe already deſcribed when the ruta baga was ſown, only that a ſmaller quantity of dung was given. Elliot informs me, that this variety has been cultivated here for two years paſt, and that it ſtands the froſt nearly as well as ruta baga. He added, that it is not ſo ſhy of growing, and may be obtained on ſoils where the other would not live. About five acres of horſe potatoes, or yams, were alſo planted, chiefly for ſwine food, or as a ſupply to the cattle when turnips are wanting. This may ſometimes happen in a ſtormy day; and Mr Jamieſon takes care to be provided at all hands, ſo as his beſtial may not ſuffer.

At Mr Jamieſon's deſire, I accompanied Elliot a few days ago through the bean fields. They have all been once run over with

the Dutch hoe, and now the ſmall turnip ploughs are employed to lay away the earth from the ſides of the plants, and to form a freſh ridge in the centre of the interval, which will afterwards be ſeparated and divided by a ſecond application of the Dutch hoe. The whole formed a pleaſant ſight, being in ſuperior order to the moſt of garden culture. The oat-fields are looking well; indeed every thing on the farm has a moſt thriving appearance.

Laſt week the horſes were put upon green food, and two feeds of oats per day, which I learn is the practice here, till the turnip ſowing is over, when they are limited to one feed. One of my men is employed to cut the graſs, and another ties it up in bunches of 28 lib. avoirdupois weight, four of which are given to each horſe per day. Twenty cattle that got ruta baga in April and May, are alſo carried on with clover given them at the ſtake, and they ſeem to be thriving well. It takes a man and two horſes to bring home the graſs, as the field is about half a mile from the homeſtead. The feeding of the cattle is in Howard's department; but the charge of ſuperintending the cutting and tying the graſs is with me. I often take the ſcythe by way of amuſement, though it is rather heavy work for one of my age. Mr Jamieſon is very pointed in having the graſs cut equally and cloſe by the ground, and ſays, the lower it is cut at this time, ſo much the faſter and ſtronger will the ſecond crop grow afterwards.

June 10. All hands are employed about the turnip-ſeed work; and what with ploughs, harrows, rollers, drills and carts, and the fillers and ſpreaders of dung, a jovial number is upon the field; but I muſt deſcribe things in order, otherwiſe you will not comprehend the nature of our operations ſufficiently.

The extent of the field remaining for common turnip is ſeventy-five acres or thereby. It had been ploughed four times over, and after each furrow immediately harrowed and rolled, ſo as moiſture might be retained. Some parts, which were rather rough and cloddy, required a repetition of theſe operations; and this was performed by four harrows and one roller, drawn by two horſes. This left thirty-eight horſes for ploughing, carting and ſowing; and theſe were arranged in the following order.

Firſt, Eight ploughs and ſixteen horſes for forming and reverſing the drills, ſo as the dung might be covered. 2*d*, Six carts and twelve horſes to drive out the dung, which was middened as carried out in winter, adjoining to the field. 3*d*, Two drills, each drawn by one horſe, and ſowing two rows at a time. This was the neareſt diviſion of the ſtrength that could be made, and hitherto matters have proceeded with regularity. Elliot looks after the ploughs and drills; Fairbairn the ſpreaders; and the loading of the carts is under my ſuperintendance.

It

It is a principal object with Mr Jamieſon to have the drill formed, dunged, ſlit out and ſown, as rapidly as poſſible, ſo as moiſture, the ſoul of vegetation, may be preſerved, upon which he ſays every thing depends; of courſe, theſe operations follow each other in the quickeſt manner. How ſoon that five drills were formed, which was done by a bout of a plough to each, the carts entered; and the dung being laid in ſmall heaps, was inſtantly ſeparated by ten ſpreaders, who were divided into two gangs under the immediate direction of Fairbairn. Four of the ploughs were then ſet to work in ſplitting out the drills, and were followed by the ſeed-barrows, while the other four ploughs proceeded in forming or making up freſh drills. The carts rather preſſed upon the ploughs,—though, by going at a long ſtep, no obſtruction occurred. Indeed, Mr Jamieſon had, with his uſual attention, ſelected the ſtrongeſt horſes and moſt active ploughmen for this department of the work. The carts were alſo divided into two heads, each having two of my ſquad to fill; the remainder were lent to Fairbairn, who had his corps of ſpreaders made up with ſome of Howard's people; a ſteady man was appointed for drawing out the dung to each head of carts, which Mr Jamieſon conſiders to be neceſſary, if you wiſh the land equally dunged. Altogether, there were in the field 35 men, beſides Elliot, Fairbairn, and me. I might have included Mr Jamieſon, who did not leave us for an inſtant, but rode about the field from the beginning of each yoking to its concluſion, except when at breakfaſt. Elliot thinks that ſeven acres were finiſhed this day; and as the carts took out 112 loads, which was 17 to each cart, or 14 to the acre, I apprehend he is not far out in his calculation.

June 24. Turnip ſeed is now over, having from firſt to laſt been favoured with excellent weather. The firſt ſown drills, though the weather has been dry, are fairly above ground,—entirely owing, as Mr Jamieſon declares, to the ſedulous attention beſtowed on ſecuring the means of vegetation. As the ſeveral operations went on from firſt to laſt in an uniform train, I hope the whole will be equally ſucceſsful, as the different departments of the work were nicely balanced. The ſeed uſed is all of the globe kind, raiſed on the farm, as Mr Jamieſon ſays he will never truſt a ſeedſman for a ſupply, unleſs impelled by the moſt urgent neceſſity. The ruta baga and yellow turnip were likewiſe of his own produce; and with what he ſaved of theſe ſeeds many of his neighbours have alſo been ſupplied.

Fairbairn, with a large detachment of women and boys, is at this time going through the bean fields, pulling out every weed from the drills to which the plough had not acceſs. The ruta

baga

baga is thinned and ſet out, and the yellow turnip follows. Fairbairn has about fifty hands, young and old, under him; and it is wonderful to ſee with what adroitneſs many of the boys *pull* and *ſhoot* the hoe, and how dexterouſly they ſet out the young plants. The hay harveſt is alſo commenced; and ſix of my fellows are cutting away this day, and will continue, if the weather proves dry, till forty acres are laid on their back. Mr Jamieſon has enjoined me, in the moſt poſitive manner, not to allow a ſcythe to be drawn when the graſs is wet, alleging that ſuch a ſtep would prove injurious to the quality of the hay. In the event of wetneſs, he has directed me to make the cutters turn an earth midden at the end of the graſs field, to which lime ſhells were lately driven, ſo I cannot be at any loſs, however the weather ſhould turn out.

Elliot is giving the ſummer fallow break a third furrow, and driving lime ſhells to it. He firſt harrows the land, after being gathered up, and draws out the lime in heaps of a barley firlot, or a buſhel and a half each. The ridges being 18 feet in breadth, have croſs furrows drawn at the like diſtance, which makes them appear like a damboard; and as a heap is drawn out into each ſquare, any miſtake in the application muſt be very trifling. Six carts are now employed at the lime, eight ploughs at ridging up the land, and eight horſes at the beans, which are now receiving their laſt furrow; and, when finiſhed, the horſe-hoes go to the ruta baga and turnips. A cart continues to drive graſs conſtantly; but the horſes therein employed are a couple of odd ones, not included in the regular ſtrength. Notwithſtanding the immenſe number of hands employed, I aſſure you that there is work at this time for more, if they could be procured; but this being the buſy ſeaſon with every farmer, a temporary ſupply is not to be obtained.

July 8. The hay field is all cut, at leaſt that part originally intended for dry food, though Mr Jamieſon ſays that probably a few acres more may be uſed in the ſame way, if not needed for the horſes and cattle at the ſtake. This, however, will not be determined on till the end of the month, by which time the tare field will be ready for cutting. Fairbairn had the charge of winning and cocking the hay. As the weather proved good, the proceſſes were not difficult. It lay one day untouched after being cut; then was turned over; and in the afternoon of the ſame day, put up in ſmall hand-cocks, four or five of which were afterwards put into a fork rick; and in this ſtate the hay remains till fit for the ſtack-yard. The turnip field is at hand; ſo Fairbairn's ſquad wrought there in the mornings and at ſpare times, and was ready for hay work when called for. My men, not at the turnip ploughs and,

and graſs cutting, are attached to him ſo long as hay harveſt laſts; and, of courſe, I am alſo under his direction.

The fallow break is now wholly ridged up, and about one third of it limed. I underſtand that one half of the break was limed at laſt fallow time; ſo the part that remains will ſoon be finiſhed. The lime is to be ſpread the moment the hay is ricked, which is to be done by my people, not otherwiſe engaged, and ſome of Howard's men; of courſe, the ſuperintendance will fall upon me. Mr Jamieſon ſays that he means to plough the lime into the ground with a ſhallow furrow, then to harrow and lay on the dung, and to conclude the proceſs with a ſeed-furrow about the beginning of autumn.

It gives me pleaſure to add, that Mr Jamieſon ſent for me laſt night after working hours, and inquired concerning your welfare. After ſome other converſation, he kindly ſaid, 'George, when you write my good old friend your father, tell him that I am well ſatisfied with your behaviour ſince you came under my management, and that I will do every thing in my power to ſerve you. Be aſſured, however, that ſucceſs, in a great meaſure, depends upon yourſelf. If you remain ſteady, diligent and induſtrious, there need be ſmall fears entertained; but ſhould ſloth, careleſsneſs or irregularity prove maſters, the iſſue may eaſily be foretold. You have hitherto ſhewn an anxious diſpoſition to learn, and given proofs of your activity. Perſevere then in thoſe honeſt endeavours, avoiding idleneſs as the parent of vice, and vice as the ſource whence every human miſery flows.'

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Advantages of Soiling pointed out, and Objections to the Practice answered.

SIR,

IMPROVEMENT, when firſt attempted in any particular branch of agriculture, frequently begets a jealouſy with many people, as if the attempt proceeded from vanity in the author, or from a deſire to appear wiſer in the ſight of the public than others; and this jealouſy ſhews itſelf, either by ſtarting objections to the plaineſt ſtatement, or finding obſtacles in the way of what has been demonſtrated to admit of the eaſieſt execution. I well recollect when two-horſe ploughs were firſt introduced, that not a few of thoſe, then conſidered as the wiſeſt farmers of the day, decidedly condemned them as unprofitable and unfit implements for working the ground; and yet we now ſee, that two-horſe ploughs, notwithſtanding the ſagacious conjectures of theſe ſages, are

are universally used, at least in the lower districts of Scotland, and that the ground is much better ploughed, and nearly at one half of the expense, with them, than formerly, when none but cumbersome and unhandy implements were used. I could notice several things of the like nature, were not the instance adduced sufficient to prove the general truth of my leading observation.

I am led to these remarks, from lately hearing a variety of cavils and objections urged against the plan recommended in your Work, for soiling cattle in the yard during the summer months, which, with a small alteration, will, in my humble opinion, eventually be found of eminent advantage to the farmer, and to the country. The alteration which I propose is, that instead of roaming at large in the yard, where the weak and simple are injured and defrauded by the strong and active cattle, that the whole shall be tied to the stake, and there have a regular supply of food, in the same way as done to cattle on turnip, with the addition of water at least twice a day, which, now when farmsteadings are generally provided with a well in the court-yard, will, with the assistance of a pump, and spouts for conveying the water, not prove a difficult process. Soiling, in fact, may be considered as a most beneficial and thrifty practice on two accounts: 1. Because an acre of grass used in that way will nearly go as far in the feeding of beasts, as two acres in the common method of using it; and, 2. Because of the large quantity of rich dung thereby accumulated, which, to the corn farmer, is an object of the highest consideration. It is to this last point that I mean to restrict my observations; and, surely, every farmer who attends for a moment to the utility of dung, especially to the difficulty of procuring an increased quantity of the article, and even to the difficulty of preparing what we have, will acknowledge, that however imperfectly the subject may be treated of by me, yet that none are deserving of more serious investigation.

There is but a very small quantity of land in this island calculated for carrying full crops of corn, unless restored and recruited by dung at least once in four years; but to obtain a supply to the wished for extent, has almost in every instance, unless in the vicinity of large towns, baffled and exceeded the most strenuous endeavours of the occupier. Lime, marl, shell-sand, chalk, &c. have been resorted to as auxiliaries; but the effects of such tending more to stimulate and bring into action certain principles previously in the soil, than to enrich or recruit its wasted powers, can rarely be advantageously repeated; hence it often happens, that

that the farms which at one time had received the greatest benefit from lime, marl, &c. are afterwards, when the operation of these auxiliaries had ceased, reduced to a state of the greatest weakness, and containing fewer powers and less strength than those farms where stimulants had been refrained from. I apprehend that the great body of practical agriculturists will here go along with me, and also, that they will likely concur in another opinion, namely, that, had a full supply of vegetable substances, or manure, been at hand when these stimulants were in action, the issue would have been altogether different. In fact, I have seen many farms brought into a state something like a *caput mortuum* by lime and marl. The soil, in consequence of these stimulants, produced crops till it was completely exhausted; and when once brought to this pass, a generation or two may pass away, before it is restored to the state and condition in which it was originally.

A due reflection upon these circumstances, should influence every farmer to cultivate those crops which are not only most consistent with his own interest in the first instance, but also best calculated to afford the greatest return to the soil, of food taken from it by these crops. The most superficial observer may be satisfied, that, under general management, much of this food is given to the soil in a half-cooked or unprepared state, and that not a little is given which is totally devoid of every fertilizing or nourishing quality. The dernier resort for recruiting the soil, where manure cannot be obtained, is laying it off in pasture grass, though, undoubtedly, the wished for benefit is slowly obtained; and no wonder, when so little of what passes through the cattle goes to benefit the ground: even the liquid, the most valuable part when mixed with other substances, has small tendency to promote vegetation, but rather otherwise, when applied in its original state. The only proper measure for remedying these evils, is to cut the grass, and use it at home, which, with a due supply of litter, will produce a large stock of dung, as different in quality from what is commonly used, as *first-shot* whisky exceeds that of hydrometer proof. The use of winter green crops in the house, has proved of essential advantage to every farm where it could be carried on; and were summer feeding, with clover, &c. executed with the like spirit, there can be no doubt entertained but that a similar benefit would be reaped, and that in a more extensive manner.

It has been said, that cattle, fed in the house during the summer months, will not thrive so well as if allowed to go at large; and that their progress in fattening will be checked; nay, that they will fall off when the grass gets hard and tough, in consequence

quence of being full grown; also, that a great additional expense is incurred that cannot be avoided, whilst, after all, much loss may ensue, unless uncommon attention is bestowed. I shall consider each of these objections in their order.

With regard to the first objection, which is more plausible than solid, it may be urged, that cattle in the field are often exposed to more privations and inconveniences than those kept in the house. What, for instance, is the effect of a scorching sun, which often makes the poor animals run to and fro, like as if they were mad or distracted; an evil to which those, either stall-fed or kept in the yard, are not exposed; nor to being teazed by myriads of insects, which, at a certain season of the year, will not suffer cattle to rest for one moment in a sultry day. Besides, in many seasons, when the pastures are burnt up, are not cattle in the field reduced to the necessity of eating the withered remains of what they had formerly left as unpalateable; whereas, their brethren in the house have a regular supply of food, that has not been touched nor trode upon? But as facts at all times are more satisfactory than arguments, however well founded, I may state that nine tenths of the cows kept for supplying the city of Edinburgh with milk, have, for several years past, been fed in the house, and chiefly on cut grass from fields in the neighbourhood, taken expressly for the purpose, and at higher rents than they would yield in any other way. I have seldom heard of any complaint for want of a succession of green food, even in their circumscribed situation; and surely a farmer has it much more in his power to provide this succession than any cow-feeder. The practice of soiling horses on every well governed farm, might also be cited in support of my argument, in which way the saving of food is acknowledged on all hands to be immense. It is within my remembrance, that barley for cutting green was regularly sown in all the stack-yards; and that this article was the only food given to cows during the night, for many weeks, in the summer season; and when attending the west country markets, green barley in bunches was the only fare to be obtained for horses at these places. When the late Dr Walker lectured on agriculture, he once read a letter from Cumberland, informing him of its being a practice in that county to cut oats when in a green state for their bestial, and that it was conceived to be a great improvement. Although I by no means recommend the cutting either of oats or barley in a green state in preference to sown grasses, yet these instances shew a general belief that cutting and soiling were beneficial practices. I may be over sanguine; but to me it appears, that if feeding in the house was seriously adopted, the necessity of leaving land to lye four or five

years

years in grass would be instantly superseded. I have long remarked how little benefit was received from surrendering land to three, four, or even five years pasture; and that a crop of as good oats may be got from a field which had been cut in the preceding year, as from others of the like soil which had been five years depastured. In short, the only excuse that can be offered, for suffering the ground to remain unproductive for any length of time, must arise from the want of dung disabling the farmer to get forward with a more extensive sequence of corn crops.

As to the second objection, it is at once admitted that some additional expense is incurred under the soiling system, though that is but a trifling off-set against the savings which it produces. The cutting and raking cannot at the most be stated as exceeding eight shillings per acre; while the expense of carting the grass, and attending upon the animals, cannot be more, and, in fact, is much less, than what is incurred in the feeding with turnips. Now, as the charges attendant upon the latter practice were never adduced as a proof of its impropriety, so, no more is such an objection a relevant one against soiling. The increased quantity of dung, and, much more, the increased value of that dung above what is made in the ordinary way, will defray every charge three times over, without laying any stress upon the increased number of bestial that may be kept. In a word, unless soiling be adopted, the corn farmer cannot possibly keep live-stock in any considerable numbers through the summer months; and, unless his live-stock are numerous, he will find extensive ploughing, in general situations, an unprofitable business; but where horn and corn are conjoined, and each rendered subservient to the other, aration may be extensively executed, because a sufficient supply of manure is provided for remedying the exhaustion occasioned by the corn crops.

The last objection is, the loss that may accrue, unless uncommon attention is bestowed. In answer to this, it does not occur to me, that the soiler is exposed to greater loss than the turnip feeder, who now and then may have a beast choked; even graziers are not without loss when their cattle are depastured. I consider that no more attention is required than to supply the cattle in a regular way; and, it is presumed, were attention withheld from turnip cattle, similar inconveniences would be felt. An objection like the above, is rather disgraceful in the mouth of a farmer, whose duty is to see every branch of work regularly executed. It is a solid plea for laziness and negligence; and that is the best that can be said of it.

Allow me now to add some remarks of a more general nature.

1. Green crops and wheat are the articles which yield by far the

the greateſt profit to the farmer; and in proportion as the firſt are extended, ſo will the means be acquired for extending the other. The great demand for butcher-meat has increaſed the demand for paſture graſs, and threatens to narrow the bounds of our corn fields, unleſs ſome other mode is reſorted to for feeding cattle in a more economical way. The ſame cauſe may be made to operate in a different way, and to promote an extenſion of corn land, inſtead of curtailing its limits. Were breeders and feeders better reconciled to the ſyſtem I have recommended, the number of fat beaſts for the market would be greatly augmented, while the increaſe of manure thereby produced would be the mean of enlarging the ſize of corn fields, and rendering them infinitely more productive. The conſumption of graſs in the houſe, has the ſame tendency to expand and increaſe fertility, as heat has to produce vapour. Such a mode of conſumption would not only occaſion the ground to yield increaſed ſubſiſtence for man and beaſt, above what was gained in the ordinary way, but would render it more fertile and productive afterwards; for were every particle of ſtraw, offal and graſs, carefully rotted and returned to the ſoil in a putreſcent ſtate, incalculable advantages would neceſſarily follow.

2. The meaſures which I recommend, afford the means of carrying on the proceſs of fattening from the beginning of the year till the end of it, which is of the utmoſt importance to feeders and the public. The loſs ſuſtained at particular times from a deficiency of food, is greater than many people may conceive; and, in fact, though the evil is notorious, the extent thereof cannot be calculated. Were green crops of the ſeveral varieties to be cultivated proportionally with the number of beſtial kept, and were ſuch to be uniformly conſumed in the houſe, the proceſs of feeding would never be at a ſtand. What with turnips, ſtraw and hay in the winter months; green kail, ruta baga and yam potatoes in the latter end of ſpring; clover and rye graſs in ſummer; and tares and the after-math of clover in autumn; a regular ſupply of food would be preſented. In this way, manure in abundance would be provided for the corn fields; and while a large ſtock of cattle for ſupplying the butcher would be furniſhed, an increaſed quantity of bread corn would alſo be raiſed. To obtain theſe deſirable benefits, little or nothing more is required than a ſmall portion of time and attention from the farmer, though ſuch a trifling ſacrifice has been gravely urged as a ſolid objection againſt the whole ſyſtem.

3. Manure is the farmer's magic wand; and the oftener that this wand is waved, ſo much more will the fertility of his field be increaſed. Whatever may be the *pabulum* or food of plants, whether it be oil, water, ſalts or gaſes, the farmer need not puzzle

puzzle his head upon the ſubject, providing a plentiful ſupply of manure is within his reach. He ſees with certainty, that where manure has been laid, luxuriant crops are produced; and that ſterility inſtantly ſeizes upon the ſoil when manure is withheld. Influenced by theſe facts, it becomes his duty to increaſe this univerſal reſtorative by every poſſible mean; and certainly the one which is the ſubject of this paper is eminently calculated to accompliſh what is wanted; and, being within the reach of every one who poſſeſſes land of a moderate quality, may be executed with greater ſucceſs than almoſt any other branch of improvement which can be mentioned.

Should theſe obſervations appear worthy of a place in your publication, they are very much at your ſervice; and I am yours, &c. T. S. S.

Mid-Lothian, Feb. 26th, 1807.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

A brief Statement of a Law Process concerning Fences.

SIR,

In the leading article of Intelligence in your Magazine for August last, you have ſtated the caſe of a farmer, who was found liable in half the expenſes neceſſary for repairing a march fence, though his leaſe contained no ſuch ſtipulation;—a deciſion ſaid to be founded on what is termed the Common Law of Scotland.

In the obſervations on this judgement, you ſay, that, 'were it to paſs unnoticed, others of the like import might ſpeedily follow, till at laſt a common law was actually formed, ſufficiently ſtrong to reſiſt the moſt vigorous attacks;'—a prediction, Sir, which ſeems faſt fulfilling. In fact, the caſe ſtated as above, is not the only one of the kind, nor does it appear to have been the firſt. In the year 1804, one, no leſs iniquitous, was decided by the Judge-Ordinary of the moſt populous and extenſive county benorth the Forth.

The following is a brief ſtatement of that matter.

A let the farm of Z to D, who exchanged miſſives with the factor, explanatory of the tranſaction. Some time afterwards, the factor preſented two copies of a tack for D to ſign, but which he declined doing, alleging for his reaſons, that the ſtipulations which it contained were different from thoſe narrated in the original agreement. Some time afterward, A ſold the eſtate to B, and on B's death, C, heir at law, ſold it to E. D had undiſturbed poſſeſſion of the farm all along, and enclosed it with a ring fence of hedge and ditch. He likewiſe made ſome ditches

 acroſs,

across, to serve for water courses, but without planting hedges on their banks, or at all designing them for fences. At the expiration of 21 years, the time agreed upon as the duration of the lease, E raised an action before the Sheriff against D, for not having the fences on the farm of Z in a 'state of proper and sufficient repair.' D alleged, that as there was no written deed binding him, he was under no such obligation. E produced one of the copies of tack signed by A, which D had refused to sign; and, as it contained a clause binding the tenant to keep and leave the ditches and hedges in a proper state of repair, contended that D ought to be found liable, as it evidently was under that tack that he had possessed the farm. E likewise added, 'But, separately from the lease altogether, E apprehends that a tenant is bound, at common law, to leave the fences, drains and ditches on his farm, in a fencible and proper condition at his removal, just as much as he is bound to leave the houses in a state of repair.' In reply, D insisted that both these allegations were unfounded in law, and palpable absurdities.

The following is the Sheriff's interlocutor.

'With respect to the fences, by hedges, drains and ditches, on the farm of Z; Finds it not instructed by E, that D possessed that farm, on the conditions appearing in the copy of a tack said to have been agreed to betwixt D and A, a former proprietor; and, therefore, that any claims respecting the fences on that farm, must be disposed of at common law: And so finds D liable in the expense necessary to repair such fences as shall be instructed to have been on the farm when he entered to it, or such as, since his entry, have been made; and remits to the inspectors to state the neat expense of repairing such fences as appear, keeping in view the nature and construction thereof.'

On submitting this sentence to the review of the Sheriff-Depute, he confirmed it; and it was not thought prudent to carry the matter further.

D rented another farm, Y, on the same estate; but he held this under a written tack, by which he was bound to 'keep good neighbourhood in cleaning of drains, and removing stagnate water when necessary, and that he shall uphold the ring fence surrounding the farm.' The Sheriff-Substitute, before whom an action was brought to have this clause implemented, gave the following interlocutor. 'Remits to (here are the names of the inspectors) to visit and inspect the ring fence surrounding the farm of Y, lately possessed by D, and to report, by a writing under their hands, so as they can make oath, whether the same has been left by D in a sufficient condition; and, if not, to say what it will require to make them so.'

The

The inspectors reported,

1. The ring fence on the south and west sides is in a sufficient condition.

2. The north and east sides have a march ditch properly cleaned; but to make it a fence, would require L. D objected to his being liable in this, as he was only bound to uphold the fences, and keep the drains clean; not to make them fences: and offered to prove, that they were in the same condition in which he got them at entering to the farm. The Sheriff, however, repelled the objections, and found D liable. The Sheriff-depute adhered to his substitute's sentence, and D paid the sum awarded, rather than risk any more expense.

As the farm Z was a wheat soil, all arable, and under the six-shift course, which precludes pasturage; none of the subdivision ditches were designed for fences, but merely water courses or drains; therefore, excepting the ring fence, none of them ever had a hedge. The inspectors, in their statement, made one item for the expense necessary to repair the banks, and fill up the gaps in the hedges of the ring fence, and a separate one for planting a line of thorns on the bank of each of these subdivision ditches or drains, being no doubt of opinion, that D was not liable in this last article. The Sheriffs, however, seem to have had no doubts about the matter; and D paid the award.

It is not my intention, Sir, to comment at large on these decisions, as I wish to occupy as little space as possible in your Magazine; besides, the subjects are of a nature requiring no illustration.

I shall therefore only observe, that it does not appear distinctly what common law is. In the present case, it is not use and wont, as there never was a single instance of this kind, till lately, since enclosing began in this part of the country. If it is founded on any principle, it, of course, can be neither more nor less than the decisions of a class of men, who, being appointed to adjust the differences which arise among mankind in civil affairs, take upon them to substitute their own capricious opinions for equity or for law. But, at any rate, the farmer now stands in a predicament ticklish enough; since, if his landlord chooses, he is not only obliged to leave all such fences as he himself may have made, but every open drain on the farm, in a state of repair as a fence.

The gentlemen who have of late combated the introduction of trial by Jury, in certain civil causes, into Scotland, tell us, that our habits disqualify us from having our disputes settled in that manner. That is, in plain terms, that either our morals are so depraved, or our faculties so depressed, as to unfit us for con-

ducting our own affairs. And truly, Sir, I must acknowledge, that, as far as respects your humble servant, if there is any thing like either law or equity in these decisions, *de me fabula narratur.* But, on the other hand, although disqualified from forming just ideas on such matters, I must give it as my opinion (for ignorance and presumption most frequently go hand in hand), that if the will of the Judge is to constitute the law of the land, it is of the utmost importance to the community, that he should be selected rather for his integrity and abilities, than for his obsequiousness to some great man or other, or propensity to do the dirty work of a minister of State. I am, Sir, your most obedient,

PH.

N. B.—The writer of the above paper was not concerned in the causes alluded to.

NOTE BY THE CONDUCTOR.

THE Magazine is open to all parties, and influenced by none; therefore, as in duty bound, we have inserted the above 'Brief State of a Law Process concerning Fences,' which seems to have been determined on principles unknown, till lately, either by agriculturists or legal practitioners. The names and designations of the parties are, for obvious reasons, kept in the back ground; though any gentleman, wishing information thereupon, will be satisfied, on applying by letter, addressed to the Conductor, and care of the publishers.

After what was said formerly, on a case something similar in principle, it may appear unnecessary to urge a single word against the doctrine recently broached, under which tenants of land may be subjected to the most grievous oppression; but the rooted antipathy which we feel against every measure of an arbitrary nature or tendency, influences us to notice a few of the consequences which may flow from such an abominable source. Indeed, according to the explanations now given of common law, a tenant cannot for a day, no, not for an hour, be sure of the prestations that are obligatory upon him. He knows, to be sure, those he undertook in his lease to perform, though, alas! according to the modern doctrine, a fresh string may be imposed, if his landlord thinks fit, and the Judge-Ordinary sanctions them. It is a matter of no importance that the tenant was altogether ignorant of these burthens when he bargained with the landlord, and even that they are not sanctioned by the customary usage of the country. All these things are got over by a reference to common law. But, what is this common law? We answer, with reverence, it is the law of the Judge's own mind,

and

and not to be found either in the printed statutes, or in what some people consider as superior, the consuetudinary law of the land.

Common law has hitherto been regarded as founded on custom and usage, and only obligatory when no written law was recognized. Where a tenant possessed without the sanction of a lease (a practice still too common in several places), a reference to use and wont was necessary, in many cases, to ascertain contested points; but when a law has been made by the parties, when every obligation affecting either of them is distinctly marked out in the lease entered into, a resort to common law, or custom and usage, must be considered as an instance of supererogation. Besides, it is a maxim of legal polity, that in all transactions respecting land, no obligation is binding, unless it is reduced to writing. This maxim is acted upon every day by landlords, and it is an useful one; but, that its benefits should be denied to tenants, when dealing with proprietors, cannot be admitted, unless it is previously made out that both classes are not governed by the same laws. Such a sentiment, however, will be scouted by every one versant in our legal system; therefore the contrary one, that a tenant is bound to perform no more to his landlord than what is contained in the written articles under which he held his possession, is fully maintained.

We are aware that, under the name of common law, something more is often meant than is generally comprehended under that term; and that equity, or the principle which ought to govern one man in his dealings with another, is substituted in its stead. In this way, it is said, You are not to allow my fences to fall down, or get into a disorderly state, notwithstanding that I did not take you bound to keep them up, or maintain them in fencible condition; nor are you to suffer the drains or water courses to fill up, because I neglected to bind you to the clearance of them. All this, and much more, we have heard urged in favour of the law or system which we are contending against; and, upon similar principles, if the tenant had a good bargain, it might be urged, that he ought to pay more rent, otherwise the transaction was not an equitable one. But, we would inquire, whether it would be a valid argument, were the tenant to maintain, that the prestations in his lease were too severe, and not fit to be performed? We say, were he to urge such objections, would they be listened to for a moment? It may be presumed they would not; but that, upon registering his lease, and following it with a short summary process, a decreet would instantly go out against him for performance. Surely, then, if the tenant cannot obtain redress or mitigation from the articles of his lease, the landlord is not entitled to more favour. If the lease is the law to the one, so must it be to the other; and if claims at com-

mon law, or at equity, or call it what you will, may be brought forward by one party; in like manner may the other act. But, in this way, a confusion would arise, of such incredible magnitude, as would leave no man to know his exact situation; whereas, by holding to the agreement of parties, and reckoning it as the law by which their conduct was to be judged, no serious difference can ever arise betwixt them.

We believe that disputes, such as those alluded to, have as yet gone no further than the inferior courts; but we are clear, should redress not be obtained in what is called the *superior one*, that the business should be brought before the highest tribunal, so as the law may be ascertained, and tenants informed on what footing they stand. At the same time, we cannot help remarking, that those Scottish landlords, who feel disposed to go such lengths against their tenants, are not guided by the wisest and most correct principles, nor such as will eventually prove advantageous either to the interest of agriculture, or, what may be of more importance to them—their own private interest. Their conduct reminds us of the boy who killed the goose to get all the eggs at once; for, surely, the rents freely offered by tenants in Scotland, are sufficient, without any addition from extraordinary and undefined burthens. These common-law burthens, bring to our remembrance a story of an honest mason, who had bargained with a clergyman to repair his garden wall. When the wall was finished, the mason offered his account; but the clergyman insisted that his contract was not fulfilled, and that the church-yard wall was included. The mason replied, that he had not undertaken to repair the church-yard wall. Charles, says the clergyman, here is our agreement, and don't you see that the words '*et cætra*' follow the agreement about my garden wall?—Do they indeed? answered the mason: I never knew before, that *et cætra* meant church-yard walls, and shall take care of these words afterwards.

'In short, we pledge the credit of this work, that obligations, such as those alluded to, would not, in a single instance, be sanctioned or recognized by the laws of England. A statement of the particulars under consideration was submitted to a gentleman well informed with regard to the usages and practices of that country; and his reply was, 'Your Scottish laws must certainly differ materially from ours; for with us, where leases are granted, no obligation lies upon the tenant, unless it is contained in the instrument whereby he held possession; and recourse is only had to law when the clauses thereof are ambiguous, or of uncertain meaning.'

N.

BRANCH.

BRANCH II.

REVIEW OF AGRICULTURAL PUBLICATIONS.

Practical Agriculture, or a Complete System of Modern Husbandry, with the Methods of Planting, and the Management of Live Stock. By R. W. Dickson, M. D. 2 vol. 4to. London. Phillips. 1805.

A MANUAL of Husbandry, or Farmer's *Vade Mecum*, which described, in a plain and concise manner, the several processes of agriculture, from ploughing the ground to the period when the crops raised thereon were prepared for market, is a *desideratum* of magnitude. Such a treatise, to be useful, should be executed by one well acquainted with practical husbandry, in all its bearings and ramifications; one who disregarded theory, however plausible, unless sanctioned by actual experiment, and who shunned every thing of an extraneous nature, with the same care that mariners do rocks and shoals, lest the design should be wrecked and ruined. In short, a publication of this kind should be suited to the time, and to the pocket of those for whose benefit it is intended; for, if extensive and high priced, the mass of the profession may feel small inclination to acquire knowledge and instruction from a source which they are too apt to contemn and despise.

Such were the reflections that occurred to us upon examining this publication. That it contains much valuable information, and may be useful to a certain class of people, we readily acknowledge; but that it will be of any benefit to the practical farmer, we are not altogether certain. Two ponderous quartos, and these compiled from almost every book hitherto published in Britain on rural affairs, seem too much for the mental stomach of the stoutest agriculturist. Those who carry on farming for pleasure or amusement, who have plenty of time on their hand, and plenty of money in their pocket, may perhaps taste and relish the food presented; but the sedate practical farmer, whose time is precious, and whose desire for reading rarely exceeds the limits of a newspaper, or a magazine at most, must be gratified with more simple and less expensive fare. To men of this description, the task of perusing this *Complete System of Husbandry*

would perhaps appear a greater burden, than that of summer-fall ing a field of the strongest clay soil. Indeed, the latter might y an ample return for trouble bestowed; whereas, it is a dubi point, whether, with them, the other would be ranked in an ther light than as adding to the original outlay. What was large for the memory and the pocket, would, without loss of ti be consigned to the shelf, where it might remain unnoticed, neglected.

So much for our general opinion of this extensive and mul rious work. It is, however, but doing the author justice to clare that his principles are liberal and deserving of serious co deration from the landed interest of England, who in many resp seem to require line upon line, and precept upon precept, for t government and direction. We here allude to the introduc part, wherein the moral obstructions in the way of agricul improvement are explained with judgment and precision. work itself may be considered as a compilation, and fra rather in a discordant way, as shall afterwards be more ticularly elucidated. Still it presents to the amateurs of l bandry, who are gifted with leisure and patience, a large s of valuable information, though, unhappily, those who are r in need of instruction, will in a great measure be precluded f the banquet. It is now time to take a closer examination.

The introduction contains a cursory view of the princ causes which have impeded the advancement of agriculture science, together with a list of those that operate against its tension and improvement as a practical art. In this portio the work, Dr Dickson's good sense shines conspicuously; he furnishes us with many judicious remarks concerning the ral impediments which, at the present time, contribute to pre agriculture from arriving at perfection. On these matter entirely coincide in opinion with him, being satisfied that gr benefit would be gained by a removal of moral evils, than o the natural ones, numerous as they are, which the agricult has to encounter. Till these moral evils or obstructions a moved, the art of agriculture will necessarily remain in a d tated state, and be prevented from making that progressive provement, which happily is daily and rapidly taking pla every other art.

The moral causes mentioned by Dr Dickson, as oper against the extension and improvement of agriculture, m summed up as follows. 1*st*, Commons, or those large of land condemned by law to remain in a waste and u uctive state. 2*dly*, Commonable property, which, in counties, comprises nearly one half of the arable land, and

der the existing system, cannot be made to produce one half the quantity of grain, or other substances, which might be got under improved methods of cultivation. *3dly*, The tenures under which a great part of the land is held, which, in many instances, are not less injurious to the improvement of agriculture, than the circumstance of grounds being in a waste and commonable state. *4thly*, Land held under corporations, whether civil or religious, as not affording the occupiers that kind of interest and security which becomes the stimulus of exertion and improvement. *5thly*, The possession of land under deeds of entail, the owners of which may be viewed as mere liferenters, and without inducement to expend money or improve the property incidentally in their possession. These Dr Dickson seems to consider as minor evils; but he rates, as obstacles of a more powerful nature, the various and indefinite claims that are made on land. The payment of tithes in kind is ranked as the chief of these, and his arguments are so much to our mind, that we cannot refrain from extracting the whole of them.

'The payment of tythes in kind, from its operating directly as a tax on the capital and productive labour of the farmer and land proprietor, as well as from its being vexatious in the mode of its collection, is a measure that impedes the improvement of the art of husbandry in a very serious degree. In the cultivation of arable farms, especially if the land be in such a condition as to require the expenditure of large sums of money in the purchase of manure, and considerable labour and exertion in other respects, in order to bring it into the state of producing abundant crops, its effects are experienced in the most injurious and oppressive manner. The efforts of the husbandman in this case have been "compared to those of a labourer, who should make considerable exertions during the hours of relaxation throughout the day, in order that he might obtain a bit of something hot for supper; and when he was just preparing to enjoy his hard-earned morsel, he had it taken away from him by a neighbour, who stood by idle all day, and now came, by means of a legal authority he had obtained as a reward for some exertions of his predecessors, when the state of society rendered such a mode of remuneration the easiest of any that could then be devised, to seize that which the poor man gained by the sweat of his brow. Though the poor man is forced to give up his morsel in this case, it is impossible for him to yield it without reluctance, or ever after to view his neighbour with a favourable eye. It provokes an invidious parallel to be drawn between the two parties, which estranges them the more from each other. The consequence is, that although, in this particular circumstance, the one gains just as much as the other loses; yet it tends very little on the whole to the emolument of the receiver; because the loser says within himself, since I cannot enjoy my own morsel myself, I can at least prevent my neighbour from getting it, for nobody can compel

compel me to earn it but if I please. So down he sits in indolence; and neither of them enjoys the blessing that might have resulted from industry."

'The spirited cultivator may be inclined to improve his lands, as is frequently the case, even where the profit he is to derive from such improvement cannot be considerable; but under such circumstances he must constantly be prevented from proceeding by the operation of this injudicious regulation: where a tenth or more of the produce arising from the exertions of the improver are to be taken away, it is obvious that small returns will not answer; especially in a business where there is much risk from the season and other causes. By this means the community is consequently deprived of the various advantages resulting from increased industry and augmentation of produce. By the same system also, much good land, exclusive of commons and wastes, is constrained to remain in the unprofitable state of grass, which might otherwise, by a trifling expenditure of money, and no very extraordinary degree of exertion, be rendered greatly more productive under proper arable management. And it is likewise highly injurious, in many instances, by subjecting the farmer to a disgusting dependence on the tythe-owner.

'It is evident that the effects of this measure must be equally detrimental to the interests of the proprietors of lands as to those of actual farmers; for whatever tends to lessen the exertion and industry of the latter, must necessarily diminish the incomes of the former, and in a proportion much greater than is commonly supposed. But they are injured in another way besides that of rent; for as a tenth of the produce of the lands is thus taken away in kind, a deficiency of manure to that extent must be the consequence, the disadvantages of which are now generally well understood. The effect which the abolition of tythes in Scotland has had in promoting agricultural improvements, also affords a strong and satisfactory proof of their operating powerfully against the advancement of husbandry; for it cannot be attributed to any other circumstance that improvements have been carried on so much more extensively in that part of the island than in this.

'But it is not merely in stopping the progress of agricultural improvements that the payment of tythes in kind is prejudicial; its effects are injurious in many other points of view, which it is unnecessary to consider at present. It is therefore a matter of the utmost importance, that such an alteration or modification should be effected, as might render the claims of the proprietors secure, without producing those mischievous consequences which proceed from it in its present form.' I. xiv. xv.

The method of providing for the poor is also pronounced detrimental to agriculture,—an opinion we have long maintained. The fact is, that the poor-laws of England are not only hostile to improvement, but injurious to the industry of the country and the morality of the people. We notice that Mr Whitebread is attempting to clean the Augean stable; but apprehend his attempts,

tempts, however well meant, will be ineffectual to remove the immense heap of abuses suffered to accumulate for the long period of two centuries. The true and effectual way would be to repeal the act of Queen Elizabeth, and all succeeding ones, which relate to the poor, and to enact fresh laws, which had their foundation on more correct principles. So long as support is a right, not in some measure a favour, which may be withheld from unworthy objects; and so long as the payers are not the distributors, or, which is the same thing, have no sufficient controul over those in office; so long will the poor rates be found oppressive and vexatious. The Scottish system is far from being perfect; but still it exceeds in value that of the sister country, by as much as the English pound Sterling exceeds the pound Scotch. And, what is of more importance, the Scottish poor are in fact better supported, and more contented and happy, than their neighbours; while the expense, making allowance for the difference of population, is perhaps twenty times greater in England than in Scotland. In the latter country, the temptation to become a pauper is not such as to make any one seek relief, unless when visited by *real* distress; whereas in England, as was observed by a periodical essayist many years ago, it is a more profitable business to beg than to work.

The general want of proper and judicious leases is another obstacle condescended upon by Dr Dickson; but this he justly observes may be obviated by proprietors themselves. Were a stranger informed that three fourths of the land of England is held by tenants at will, who had no security for remaining in possession longer than one year, he would assuredly declare that a tenantry so circumstanced, would not attempt the slightest improvement, further than manuring, ploughing, and harrowing for the current crop. Here he would be in the right; and were he to add, that, laying improvement aside, there was a great hazard that the land would be gradually deteriorated, and at last reduced to something like a *caput mortuum*, perhaps he would not be widely mistaken. This deterioration, in fact, has already taken place with much of the English commonable land, which has been kept in a regular state of tillage perhaps since the days of William the Conqueror, where the grain crops are so trifling as barely to yield a small rent, and remunerate the occupiers for the trouble and expense of cultivating them. That the other arable land, though held in severalty, will in a short time become equally reduced, we are very apprehensive. A superficial examination of many inland counties will remove all doubts on this head; for, though they contain a treasure of old grass land, which, if broke up, would produce the greatest abundance of manure for the old tillage land,

land, yet every benefit from them by the plough is generally prohibited. To guard against this renovation seems a chief object with landlords and their stewards; though sowing down with grasses the old tillage lands, and breaking up the pastures, would be the greatest improvement that could be accomplished. On the first part of this subject, viz. the want of leases, we are furnished by Dr Dickson with the following excellent observations.

'From an examination of the excellent surveys that have lately been made of the agricultural state of the kingdom under the direction of the Board, it appears that by far the greatest part of the land in many counties is held by tenants merely at the will of their landlords, who of course may deprive them of their farms, on proper notice being given, whenever they please; and, in cases where leases are granted, they do not extend further than from five to nine years, except in a very few instances indeed, in which they may be protracted to the period of nineteen, or even twenty-one. And even such leases as those, are for the most part clogged with such restrictive clauses and conditions as put a stop to improvement, and confine the cultivator in methods of management that are frequently far from being the most advantageous.

'In the first case, indeed, the farmer is kept in such a state of dependence as is not only highly degrading, but must effectually damp and repress his exertion and industry. And the tenants under short leases are not in situations much more desirable, as they cannot with safety or propriety enter into any extensive beneficial methods of augmenting the produce of their farms, lest the advantages should be reaped by others. Even a lease of twenty-one years, in many situations and under different circumstances, is not sufficient to allow the farmer to undertake improvements of considerable magnitude, as he can neither conduct them in the most economical way, nor reap the full advantage of them. Besides, where money to any great amount is expended in the beginning of such a term, the farmer is often, in order to indemnify himself, where he has not a prospect of remaining, induced to run out and exhaust the land at the latter end of his lease; which is a practice of the most prejudicial tendency to the proprietors of such farms, and the community, as well as the interests of agriculture.

'It is evident, therefore, that the farmers of land should in *all* cases have such a security for the possession of it as will enable them to introduce the most improved modes of management, and excite them to adopt the best means of improvement. The length of lease that may be most suitable and best adapted for these important purposes is not easily ascertained; it ought probably to vary according to the particular circumstances and the nature of the improvements that are to be carried into execution. In such leases many clauses must of course be requisite: but they should be such as are plain and simple, and such as may not too greatly destroy the independence of the farmer, but leave him much at liberty to follow his own plans of cultivation; while they afford effectual

effectual ſecurity to the proprietors, by cautiouſly guarding againſt the introduction of ſuch ſyſtems of huſbandry as would be injurious or improper.' I. xvii. xviii.

On all the ſubjects noticed, Dr Dickſon writes ſo judiciouſly, and with ſuch a knowledge of the human character, as leaves us only to lament that his obſervations were not more diffuſe and extenſive. We are free to ſay, that it is unneceſſary to expect any radical improvement of Engliſh agriculture, unleſs the obſtacles pointed out by him are removed, which can only be done by introducing a new ſyſtem of economy, ſo far as agriculturiſts are concerned. In fact, the very laws of the country, at preſent, are inimical to improvement; and though proprietors, in too many inſtances, are not without blame, yet were fiſcal obſtructions removed, it is to be preſumed that intereſt, or what ſome people may call common ſenſe, would come into action, and, in due time, bring about a complete change in the Engliſh rural ſyſtem. The opinions now offered we have long held; in fact, they are the principles which originated the Magazine; and we are glad to ſee them ſupported by ſuch a reſpectable authority as Dr Dickſon.

We now come to the body of the work; and here a field opens to our view of the moſt extenſive bounds. In fact, from the way and manner in which the ſeveral ſubjects are treated, a regular analyſis is an impracticable taſk. Had Dr Dickſon been content with detailing his own ſentiments, which we are certain would have been correct, or had he uniformly given the whole in one perſon, we would have followed him with pleaſure. But this mode is not adopted, the work being converted into a kind of compilation, containing the aggregate ſentiments of the whole agriculturiſts of the paſt and preſent age. It is in this point of view that we arraign the conduct of Dr Dickſon. He has preſented an immenſe variety of opinions, ſufficient to occaſion a kind of chaos in the mind of the reader, without relieving or extricating him from it at the concluſion of each article by obſervations of his own. The plan adopted ſeems, indeed, calculated to promote ſcepticiſm, and to unhinge every agricultural principle in the mind of thoſe who peruſe this complete body of huſbandry. Were Dr Dickſon's example imitated by a clergyman, it is to be feared that the maſs of his hearers would ſtand a fair chance of ſoon becoming infidels.

The firſt volume is divided into eleven ſections. 1. On implements of huſbandry. 2. On farm-houſes and offices. 3. On farm-cottages. 4. On encloſing of land. 5. On conſtruction of roads. 6. On ſoils. 7. On manures. 8. On draining of land. 9. On paring and burning. 10. On fallowing of land. 11. On

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the cultivation of arable land. It is inconſiſtent with our limits to examine each of theſe ſections particularly, but we ſhall endeavour to give our readers ſuch a ſample as may enable them to form ſome idea of the nature and deſign of this extenſive undertaking. The ſecond volume muſt be delayed to a future occaſion.

The firſt ſection is on the implements of huſbandry, and is introduced by the following obſervations.

'There is ſcarcely any part of the extenſive and important ſcience of agriculture that has received greater improvements within theſe few years, than that which relates to the conſtruction of the implements which are neceſſary to be employed. Since a taſte for the art has fortunately been diffuſed through the country, and men of great knowledge and fortune have been induced to engage in it, perſons of ingenuity and mechanical talents have been brought forward and ſufficiently encouraged to exert themſelves either in the improvement of the better kinds of the old inſtruments, or in the invention of new ones, by which means more convenient and uſeful inſtruments and machines have been provided for almoſt all the various operations and proceſſes that are continually to be performed in cultivating land, and managing the different kinds of buſineſs neceſſarily connected with it. Among the variety of different implements which have been thus preſented to the attention of the agriculturiſt, ſome, as may eaſily be conceived, have appeared, that are evidently much too expenſive and complicated in their conſtruction for the purpoſes which they are intended to ſerve; and others, probably from a want of practical information in the inventors, have not been properly adapted to the uſes for which they were deſigned; but in general they have been ſuch as have contributed much to the preſent very improved ſtate of the art.' I. 1.

The different ploughs uſed in the iſland are then deſcribed, but we may defy a tyro in huſbandry to ſay which of theſe inſtruments are the moſt profitable ones. We thought at firſt that ſwing ploughs were to carry the day; but an extract from Middleton's View of Middleſex nearly overturns the preceding reaſoning. Then the Staffordſhire ſurveyor enters the field with his improved wheel-plough; and, being ſucceeded by Lord Somerville with his double-furrow one, the conteſt is left undetermined. Every other farming inſtrument is afterwards noticed. As to thraſhing machines, we apprehend that the Doctor is unacquainted with them, otherwiſe he would not aſſert, 'that the whole expence of conſtructing a thraſhing-mill, including the ſhade for covering the great wheel, does not at moſt, *in any caſe*, exceed 100l.' He ſeems alſo to have made a miſtake with regard to the hands required to work theſe machines.

Farm-houſes and offices are the ſubject of the ſecond ſection. The materials here uſed are chiefly communications to the Board of Agriculture, whence a farm-houſe of any kind or dimenſions may

may be ſketched without much trouble or difficulty. Eſtimates of every kind of expenſe attending ſuch buildings are alſo preſented; but we conſider the whole as hypothetical.

The third ſection is on farm-cottages. Here, as might be expected, much ſpeculation is hazarded; nor will this excite wonder, when our readers are informed, that the authorities cited are Lord Winchelſea, Lord Brounlow, Sir John Sinclair, and other eminent agriculturiſts of equal reſpectability. Various eſtimates, extracted from Mr Kent's Hints to Landed Gentlemen, are furniſhed, which we ſuſpect will not be extenſively uſed. We ſhall amuſe our practical readers by one of theſe eſtimates, and leave them to ſay, whether it is cottages for thoſe generally called cottagers that are meant, or thoſe ſometimes erected for town-gentlemen, who are not ſatisfied without having their country cottage.

"BRICK COTTAGES.

For two cottages of this kind, of the ſmalleſt ſize, his eſtimate is this:—

Bricklayers' Work.	£.	s.	d.	£.	s.	d.
The walls 166 ſquare, at 4s. 6d. per ſquare	37	7	0			
Pan-tiling, with ſmall-ſized deal lath, and ſparkled within ſide, ten ſquare and a half, at 1s. 2d. per ſquare	11	11	0			
Partitions lathed and plaſtered, on each ſide, with two coats of mortar, 107 yards, at 10d. per yard	4	9	0			
Plaſtering the walls, 144 yards, at 6d. per yard	3	12	0			
Paving with white bricks, 125 yards at 1s. 4d. per yard	8	6	8			
Ceiling, between the joiſts, 125 yards, at 6d. per yard	3	2	6			
Two ground-floor chimneys, and two fire-places in the chambers, and two ovens and oven-lids	9	2	0			
Foot-lacing in the chambers	1	1	0			
Two flag-ſtones, for the chamber chimneys	0	4	0			
				78	15	2
Glaziers' Work.						
Sixty-nine feet of glaſs, at 8d. per foot	2	6	0			
Flaſhings of lead for the roof-windows	0	10	0			
				2	16	0
Smiths' Work.						
Two large caſements, at 6s. 6d. each	0	13	0			
Four ſmall ditto, at 4s. each	0	16	0			
Carry forward	L.1	9	0	L.81	11	2

Brought over	L. 1	9	0	L. 81	11	2
Chimney-irons to hang pots on	0	7	6			
Two ſtoves for chamber fire-places	0	13	0			
				2	9	6
Carpenters' Work.						
Four tons of pollard timber, at 1l. per ton	4	0	0			
Five tons of deal timber, at 2l. 5s. per ton	11	5	0			
Nine ſquare and forty feet of roofing, at 9s. per ſquare	4	4	6			
Six ſquare and an half of flooring joiſts, at 7s. 6d. per ſquare	2	8	0			
Six ſquare of flooring, with white-wood deal, at 18s. per ſquare	5	8	0			
Twelve pair of door-caſes, at 2s. a pair	1	4	0			
Twelve doors, at 4s. each	2	8	0			
Eight windows, at 2s. 6d. each	1	0	0			
Two winding ſtaircaſes, at 1l. 5s. each	2	10	0			
Five ſquare of ſtud-partitions, at 6s. 6d. per ſquare	1	12	6			
Two pieces of timber to lay on the chimneys	0	2	0			
Two roof-windows at 6s. each	0	12	0			
Nails, and irons, for doors	1	12	0			
Eight window-boards, at 1s. each	0	8	0			
Shelves and work to pantries	0	12	0			
Carriage of materials, eſtimated at	8	0	0			
Add, to make the calculation even	0	13	4			
				47	19	4
The amount of the two cottages				£. 132	0	0
The amount of one				£. 66	0	0

When on this ſubject, we cannot help remarking, that the Scotch ſyſtem of cottages is infinitely preferable to the Engliſh one, becauſe every farm in the former country is provided with a number ſuited to its ſize, or to the number of families employed upon the premiſes. Inſtead of expenſive buildings, eventually defrayed out of the property, conſequently leſſening its value, decent houſes, 20 feet in length and 16 in breadth, and covered with pan-tyle, are erected, the coſt of which rarely exceeds 30l. and in many caſes not ſo much. A cottage of this deſcription is fully ſufficient to accommodate a working man and his family; and many of them are kept in ſurpriſing good order and neatneſs. At ſame time, it deſerves notice, that when once erected, the Scotch proprietor is free of future burthen; for tenants being taken bound to leave their houſes in good order at the end of a leaſe, the incoming, or new tenant, for his own intereſt, takes care that the obligation is ſtrictly implemented. But the lamentable want of

of cottages in England may be traced to the poor-laws; and ſo long as theſe remain on their preſent footing, every farmer, out of ſelf-defence, will keep the evil from his door as long as in his power, avoiding many cottagers under him as a moſt ſerious evil. A number of families on a Scotch farm is the ſource whence infinite advantage flows to the farmer, whereas with our ſouthern brethren a very different effect, under exiſting circumſtances, is neceſſarily produced.

Attempts have been made to ſeparate the cottager from the tenant, and to place the former under the landlord, as if that was to contribute to the benefit and advantage of either party. We have always conſidered a meaſure of this kind as highly pernicious to all, and beneficial to none. To emancipate cottagers from the controul of thoſe who, ſtrictly ſpeaking, are their maſters, is looſening the bands of ſociety, and ſanctioning anarchy and diſorder amongſt the working people. Aſſuredly none are more competent judges of the cottager's abilities, than the perſons by whom he is employed. If a certain number of houſes are annexed to a farm, the poſſeſſor of that farm muſt, in the nature of things, be better qualified to fill them with tenants, than either the landlord or his ſteward. He has an intereſt in their being induſtrious and ſteady; whereas the proprietor and his ſteward have none, except it lye in the gratification of pragmatical interference.

Encloſing of land is treated of in the fourth ſection. The advantages of encloſing are firſt pointed out, and the utility of a general act, unfettered by tedious and expenſive formalities, is demonſtrated. The different kinds of fences uſed in the iſland are next deſcribed at great length; but it is out of our power to accompany the author in his progreſs. With regard to a general encloſure act, many people doubt whether ſuch a meaſure can be brought to a ſucceſsful iſſue. Its utility they do not deny, though inclined to think that a narrow jealouſy, entertained by proprietors of old cultivated land, will ſtand in the way of any general enactment. This may be the real reaſon, for all we know, why every attempt of this nature has hitherto been unſucceſsful, though it is one which cannot with decency be aſſigned by the moſt hoſtile oppoſer.

The conſtruction and repair of public roads is next diſcuſſed. Good and convenient roads are of great uſe in every point of view, though hitherto the beſt method of conſtructing and repairing them has been too much neglected. Indeed this is not to be wondered at, when we conſider, that the ſole direction and management of public roads has been monopolized and engroſſed by the landed intereſt, who, in nine caſes out of ten, cannot be reckoned the beſt claſs for undertaking ſuch a taſk. In fact, the greateſt part of road-work ſeems to require wiſdom and know-

ledge only poſſeſſed by civil engineers; though unhappily, in our days, the only qualification deemed neceſſary is a certain extent of land rent. The expenſe of roads is an intolerable burthen to the public, whilſt, after all, the lieges are often imperfectly or inconveniently accommodated.

The directions given on this head are chiefly extracted from communications made to the Board of Agriculture by Meſſrs Beatſon, Cumming and others; and, proceeding from gentlemen ſo well qualified, may be regarded as deſerving the utmoſt attention. The following paſſage is much to our mind, and, if acted upon, would prove beneficial in ſeveral Scottiſh counties where a different ſyſtem is faſhionable.

'That roads may be conſtructed in the ridge or ſloping form that has been deſcribed above, with much propriety and ſucceſs, in various ſituations, there cannot be much doubt; though experience, which is probably the beſt guide, would ſeem to ſhew, that the ſlightly convex ſhape is not only more generally applicable, but that which admits of the materials being laid in the moſt advantageous manner, in reſpect to the preſſure and wear of heavy carriages, as well as other points of importance. But whichever form may be adopted, the road ſhould never have much elevation in the middle, or be greatly rounded, only ſo much that the water may be well and eaſily taken off; as, where either the one or the other is the caſe, there muſt be great inequality produced in the preſſure of carriages, by the weight being ſo much thrown on the lower wheel, and an increaſe of friction, from the inſide of that part of the wheel through which the axle-tree paſſes bearing too hard againſt the foulder, and the outſide too much on the pin which confines it in its ſituation; by which the difficulty of the draught is greatly augmented, and rendered more inconvenient for the animal. And further, accidents are more liable to take place in conveying top loads, or ſuch ſubſtances as are of a liquid nature.' p. 162.

Soils are treated of in the ſixth ſection. This is an abſtruſe ſubject, on which the ideas of moſt people are arbitrary and at variance. Almoſt every one claſſifies them in the ſame way, that is, into clay, loam, ſand, gravel, chalk, peat, and ſo on; but hardly two perſons are agreed on the main diſtinctions betwixt each. Clays and loams are often nearly allied; and a ſoil which, ſtrictly ſpeaking, is a real clay at one period, may at another be converted into a rich loam, by having a large quantity of manure poured into it. The varieties of each kind alſo approximate ſo nearly to each other, that a confuſion of ideas is occaſioned when determining their reſpective merits. Even the nature of the bottom, or ſubſoil, will give a tinge or hue to the ſurface, which, in proceſs of time, may make a change of the original texture and ſubſtance.

The ſubject of the ſeventh ſection is of a nature not leſs abſtruſe than that of the preceding one. We all know that rotten or decayed ſubſtances, applied to or mixed with the ſoil, will ſerve to enrich

enrich, and ſo enable it to carry greater crops of corn or graſs; but how, or in what way, the ſoil is enriched, and conſequently enabled to produce theſe increaſed crops, is a myſtery even to the moſt profound philoſopher. Whether the farmer is greatly intereſted in ſuch reſearches, may ſafely be queſtioned; at all events, it will be allowed, that ſedulity employed in the accumulation of theſe rotten ſubſtances, vulgarly called manure, is to the farmer a more important matter than poſſeſſion of all the knowledge in chemiſtry enjoyed by the whole profeſſors of that ſcience, regular or irregular. It is enough to him that dung will make corn grow; and the *deſideratum* is to acquire the largeſt poſſible quantity of that *dirty* article.

As to the means of augmenting and preſerving manures, we are furniſhed by Dr Dickſon with the following directions.

'On due attention being paid to the increaſe of manures and the modes of preſerving and managing them, in a great meaſure depends the general fertility of farms, and the luxuriance or goodneſs of the crops that are grown upon them. It is therefore a matter of great intereſt and importance for the farmer to ſee that nothing is waſted or thrown away that can poſſibly be converted to ſuch a purpoſe. That there are many ſubſtances that may be rendered uſeful in this way, which have hitherto been little regarded by the cultivators of land, there can be little doubt, when the daily waſte of animal, vegetable, and other matters, that takes place in every country, from their being carried away by rivers, or conſumed by fires, is fully conſidered.

'Another great cauſe of loſs in the production of manures is from the want of adopting or putting in practice ſuch modes of management, in reſpect to different ſubſtances, as are capable of rendering them fit for the purpoſe of application, in the moſt quick and expeditious manner; for it is obvious, that if, by properly attending to ſuch means, the ſame quantity of manure can be prepared in a ſhort ſpace of time, which under other circumſtances muſt have required a long one, much increaſe of manure may be effected, and conſequently great advantages be gained by the cultivators of the ground. What is neceſſary to be done in order to facilitate and haſten the decompoſition and reduction of different materials into the proper ſtates for being applied to the ſoil, we have already ſeen to be, in ſome meaſure, the free admiſſion of atmoſpheric air; a quantity of moiſture ſuited to the condition of the matters made uſe of, and a due degree of heat; and alſo by the proper blending of animal with vegetable ſubſtances, in the incipient ſtages, and the addition of lime, according to circumſtances, and in proportions ſuited to the ſtate and nature of the ingredients.

'As the principal reſource, on moſt farms, for the production of manure, is the farm-yard, it ſhould be conſtructed in ſuch a manner as that every thing may with eaſe and facility be converted to the purpoſe. In general one dung ſtead may be ſufficient; but where the ſize of the farm is large, two or more may be neceſſary, as the putrefaction of ſuch

heaps proceeds with greater regularity and expedition, from the acceſs of air and moiſture being more free, when they are not made too large; and, beſides, they can be more conveniently turned over or removed. The parts of the yard on which they are ſituated ſhould, while they are convenient for depoſiting the dung, and other matters from the ſheds and other offices, upon, be neither too much elevated, ſo as to cauſe the dung to become dry, or ſo greatly depreſſed as to favour the ſtagnation of water upon it, and thereby deprive it of the properties moſt eſſential to the promotion of vegetation. Before each of the dung-ſteads a reſervoir, or baſon, ought to be made, into which not only the drainings from all the different ſheds and places where animals are fed or kept, may empty themſelves, but likewiſe the urine from the neceſſaries, the ſuds from the waſhhouſes, and the waſhings of the various utenſils employed in the family. Without theſe advantages in the conſtruction of farm-yards, much loſs of manure muſt daily occur, from the liquid matters of ſuch places continually running away, and being otherways waſted, as well as from their not being made uſe of to forward the converſion of other ſubſtances into the condition of manures.

'Where theſe and ſuch other ſuitable accommodations as have been already deſcribed are provided, the farmer will have little more to do than be careful in ſaving or providing ſuch matters as are ſuitable for the purpoſe, and cauſe them to be properly placed and removed, in order to have them ſpeedily reduced into the ſtate of manure, and the quantity of his dung heaps thereby greatly increaſed. p. 261. 262.

We are glad to obſerve, that a practice we have much at heart is earneſtly recommended by Dr Dickſon. When we add, that in no other way will the ſtock of manure be more effectually increaſed, it may be hoped that the paſſage will meet with attention.

'The ſoiling of horſes, and different kinds of cattle, with rich green food, as clover, ſummer-tares, and other artificial graſſes, cut freſh every day during the ſummer ſeaſon, and placed in cribs, in the ſhed, or fodderıng yards, the bottoms or floorings of which have been prepared and ſtrewed with earthy materials and litter, in the manner we have already ſeen, is a practice by which great additions may be made to the dung-hills, as the evacuations of cattle fed in this way are very conſiderable. It is remarked by the Earl of Dundonald, that experience only can teach, or warrant the belief of how few acres of ground, under the culture of artificial graſſes, when cut green, and daily given to working horſes and other cattle, will ſuffice for their maintenance. The artificial graſſes, or plants, beſt adapted to this purpoſe, are, he ſays, red clover, tares, and ſainfoin. None of thoſe ſucculent plants with large ſtems and leaves anſwer, he obſerves, ſo well to be depaſtured as to be mown; not only on account of the injury they receive in being bruiſed by the treading of cattle, but, by being conſtantly cropped and kept ſhort, they are deprived of the nouriſhment which they principally receive by their ſtems and leaves. Sainfoin is, he thinks, beſt ſuited to chalky or dry ſoils, and to the ſouthern parts of Britain. It has often been tried without ſucceſs in the northern parts of England, and in Scotland.

Winter

Winter tares have alſo been ſown, but have not been found to anſwer any valuable purpoſe. Clover and ſummer tares, therefore, ſhould, he thinks, be the only plants of which the cultivation on a large ſcale ſhould in theſe parts be attempted; and every prudent farmer will take care to have a full ſupply of them,—as, in the event of a ſuperabundant quantity for green food, theſe crops are equally proper for hay. Tares ſhould always, he ſays, accompany the culture of clover, to ſupply the deficiency of herbage between the firſt and ſecond cuttings of the clover.

'The quantity of manure that may be formed in this way is, probably, much greater than can be ſuppoſed by thoſe who have not actually made a trial of the method: by ſome French writers it is ſtated, that from three or four hundred ſheep, kept in this mode, manure ſufficient for nearly an acre of land may be daily procured; and the manures thus obtained are likewiſe aſſerted to be preferable to dung procured in the common method. p. 266. 267.

Section eighth is on the draining of land, wherein numerous bills are drawn on Darwin and Johnſtone. In ſhort, it appears, that the greater part of the latter gentleman's pamphlet, on Elkington's mode of draining land, is retailed without the formal appendage of lacings on the ſide. Draining may, perhaps, be eſtimated as the moſt neceſſary operation, where practical agriculture is carried on; for unleſs a due attention is paid to make land dry, ploughing can neither be executed to advantage, nor manure profitably uſed.

The operations of paring and burning come next under conſideration. It will be recollected by moſt of our readers, that theſe operations are extolled by one claſs of agriculturiſts as improvements of the firſt conſideration, while by others, and thoſe forming a claſs not leſs numerous, they are reprobated as tending to waſte and deſtroy the ſoil wherever they are executed. The opinion originally formed by us on theſe operations, and which has been urged more than once, is, that on rough coarſe ſwards, not eaſily reduced, paring and burning was the beſt way of bringing their powers into action; but that, on ſoils which carried graſs of a different deſcription, and admitted reduction by the plough, ſuch operations, at the leaſt, were unneceſſary. Soils covered with rough coarſe graſs are naturally fitted for burning; whereas thoſe of a more tender nature, carrying only the artificial graſſes, may with eaſe be cultivated in the ordinary method. That paring and burning will in any caſe neceſſarily waſte and exhauſt the ſoil, we are diſpoſed to conſider as an unfounded notion; though, as a ſtimulus of no ſmall power is thereby communicated, we are equally clear, that unleſs regular huſbandry is afterwards exerciſed, the moſt ſerious loſs may be ſuſtained. Dr Dickſon's opinion ſeems to be nearly ſimilar.

'From this view of the manner in which the proceſs of paring and burning may contribute to the improvement of land, the nature of the products that are formed by it, and the effects which they produce on the ſoils, it would however appear to be a mode of cultivation more adapted to ſome ſorts of land than others; as, where they are light or thin, and there is much vegetable matter accumulated within the ſoil, whether from the decay of ſucceſſive crops of different ſorts of plants, for a great length of time, or the repeated applications of manures, without their having much ſward or coarſe vegetable products, ſuch as have been mentioned, growing upon the ſurface, it may do harm, eſpecially when a great degree of heat is not carefully guarded againſt, and judicious modes of cropping introduced, by leſſening the quantity of uſeful vegetable matter which they contain, without ſupplying any thing as a compenſation. But where they are more ſtiff and heavy, and there is a thick matted ſward (diſpoſed to the production of moſs, or covered with any ſort of rough, ſour plants, whether of the graſs or other kinds), it muſt, when cautiouſly practiſed, be a highly beneficial, and perhaps, in many caſes, an indiſpenſable mode of cultivation; not only by rendering them more open and porous in their textures, and reducing the coarſe vegetable maſs into that ſort of form in which it can be readily turned down and incorporated with the earthy materials, but alſo by ſupplying a portion of ſaline matter that may operate ſtill further in promoting their fertility. That theſe are the effects of the proceſs, and the caſes in which it ſhould be rejected or employed, ſeems evident, from the experience of the moſt exact and careful practical agricultors.' p. 338. 339.

The fallowing of land is treated of in the tenth ſection. Here, as might be expected, much variety of opinion prevails; and the ſcholaſtic farmer will with difficulty aſcertain, whether drilled crops, or the radical operation of ſummer fallow, are beſt calculated for cleaning his land, and preſerving it in a huſbandman-like condition. Our ſentiments on thoſe points are already well known. We think that the quantity of ſummer fallow may be leſſened or reduced by the introduction of drilled green crops; but that, unleſs upon ſoils of a ſandy or gravelly deſcription, which are incumbent upon an open bottom, the practice of ſummer fallowing can rarely be diſpenſed with. In no other way than applying it to ſummer fallow, can dung be uſed to equal advantage; and from a continued obſervation of thoſe who practiſe ſummer fallow, we are enabled to remark, that the ſize of their ſtack-yards is generally in direct proportion with the extent of land in the preceding year, under this radical mode of improvement.

In this ſection, Dr Dickſon pitches the Weſt York ſurveyors againſt the celebrated Mr Arthur Young; and our readers will no doubt wiſh to learn the reſult of the combat betwixt theſe gladiators. The ſurveyors are well known to reſpect ſummer fallow

as

as a primary improvement, while Mr Young maintains ſentiments directly oppoſite. Let us hear what is ſaid by each party.

'It has been lately well obſerved, that "when land of a dry, gravelly quality, gets foul, it may eaſily be cleaned without a plain ſummer fallow; as crops, ſuch as turnips, &c. may be ſubſtituted in its place, which, when drilled at proper intervals, admit of being ploughed as often as neceſſary; whereas, wet ſoils, which are naturally unfit for carrying ſuch crops, muſt be cleaned and brought into good order by frequent ploughings and harrowings during the ſummer months." Indeed, it is ſtrenuouſly contended by the ſame author, that the moſt judicious intermixture of crops upon clay ſoils will not preclude the neceſſity of a ſummer fallow; though he admits that it may go a great way in preventing the neceſſity of its being ſo frequently repeated. But another writer, whoſe experience has been conſiderable, while he allows that there is no queſtion at all of the merit of fallowing when compared with bad courſes of crops, and who thinks, that if the huſbandry is not correct in this reſpect, the fallowiſt will certainly be a much better farmer than his neighbours, contends that there are courſes which will clean the fouleſt land as well as any ſummer fallow, by means of plants which admit all the tillage of ſuch a fallow. "Cabbages," ſays he, "are not planted before June or July: winter tares admit of three months' tillage, if tillage be wanted. Beans, well cultivated, will preſerve land clean, which has been cleaned by cabbages; and in any caſe two ſucceſſive hoeing crops are," he thinks, "effective in giving poſitive cleanneſs. Theſe obſervations are not," he ſays, "theory; they are practice: and it is high time that mankind ſhould be well perſuaded, that the right quantity of cattle and ſheep cannot be kept on a farm, if the fallows of the old ſyſtem are not made to contribute to their ſupport." p. 362.

Perhaps, it is travelling out of the road, when we preſume to animadvert upon what is urged by Mr Young againſt ſummer fallow; but the eager deſire felt to promote practical huſbandry in all its branches, induces us to offer a ſingle obſervation thereupon. He ſays, that cabbages in the firſt year, and beans in the ſecond, will effect poſitive cleanneſs. Granting the effect to be ſuch as is deſcribed, it does not follow that the farmer will thereby be more benefited than if he had reſorted to ſummer fallow in the firſt inſtance. The cabbage crop may perhaps be worth five pounds, which certainly is a large eſtimate, and the beans worth ſeven pounds, making altogether twelve pounds per acre; whereas, had the land been ſummer fallowed, and ſeeded with wheat, a return of four quarters per acre (and that is a moderate computation) would undoubtedly be of more importance to the farmer. But this is not all. A greater quantity of dung is called for to cabbages than is usually applied to ſummer fallow; and as the cabbage is a ſevere ſcourger, it is to be feared that nearly the whole manure applied would be extracted in the firſt in-

stance, leaving the ground in a bankrupt and exhausted state during the remainder of the rotation. From this view, the success of after crops may be questioned; at all events, if wheat was to be taken after beans, which succeeded cabbages, the richest soil would stand in need of additional manure before the rotation could successfully go forward. Under a sequence of cabbages, beans and wheat, the best land in the island may with facility be deteriorated, whilst the condition of the occupier, which is an important consideration, would not be mended or improved.

The cultivation of arable land forms the last section of the volume before us, and contains many things deserving of notice, had our limits permitted this article to be extended to a greater length. The method of *warping* land, as it is called in Yorkshire and Lincolnshire, being probably unknown to most of our readers, we cannot refrain making an extract concerning this singular mode of improvement.

"The land to be warped muſt be banked round againſt the river. The banks are made of the earth taken on the ſpot from the land: they muſt ſlope ſix feet: that is, three feet on each ſide of their top or crown of the bank, for every foot perpendicular of riſe: their top or crown is broader or narrower, according to the impetuoſity of the tide, and the weight and quantity of water; and it extends from two feet to twelve: their height is regulated by the height to which the ſpring tides flow, ſo as to exclude or let them in at pleaſure. In theſe banks, there are more or fewer openings, according to the ſize of the ground to be warped, and to the choice of the occupier, but in general they have only two ſluices, one called the flood-gate to admit, the other called the *clough* to let off, the water gently: theſe are enough for ten or fifteen acres. When the ſpring-tide begins to ebb, the flood-gate is opened to admit the tide, the clough having been previouſly ſhut by the weight of water brought up the river by the flow of the tide. As the tide ebbs down the river, the weight or preſſure of water being taken from the outſide of the clough next the river, the tide water that has been previouſly admitted by the flood-gate opens the clough again, and diſcharges itſelf ſlowly but completely through it. The cloughs are walled on each ſide, and ſo conſtructed as to let the water run off, between the ebb of the tide admitted, and the flow of the next; and to this point particular attention is paid. The flood-gates are placed ſo high as only to let in the ſpring-tides when opened. They are placed above the level of the common tides."

As a ſort of new ſoil is created by this practice, it is of but little conſequence what the nature of the land may be, almoſt all kinds being improved by it. It will probably, however, be the moſt beneficial, in ſuch light ſoils as are very open and porous, and ſuch ſtiff ones as are defective in calcareous matter, and which require ſubſtances of this kind to render them leſs tenacious. The beſt ſituation of land for performing this buſineſs in, is when it is in the ſtate of fallow; but it may be done

done when in that of ſtubble, or other ſimilar condition, and even in that of ſward, when the graſs begins to decline. The ſeaſon of doing it is generally in the ſummer-months, from May or June, till Auguſt or September, as at theſe times the lands not only become the ſooneſt dry, a circumſtance which muſt always fully take place before the proceſs of cultivation can be carried on, but the tides are leſs mixed with freſh water, in which ſituation they are conſtantly found the moſt effectual. Land, when once well warped, will continue for a great length of time in good condition; but, notwithſtanding this, it is ſuggeſted by ſome perſons converſant with the buſineſs, as a better practice, to apply a ſmall portion of warp whenever the land is in the ſtate of fallow, which, under the arable ſyſtem, will be about every five or ſix years. By this means the farmer will be more ſecure of having good crops. The depth to which the lands are covered with the water muſt be various, according to the differences of their levels, and the heights of the tides in the rivers from which they proceed. When it can be done, it may be admitted to the height of three or four feet or more, as the depoſite of ſediment is in ſome meaſure proportionate to the height of the water, though the ſame effects may be obtained from much ſmaller quantities of water, by continuing the proceſs a greater number of tides. Lands that have been ſubjected to this mode of improvement, ſhould conſtantly be kept in the ſtate of tillage for ſome length of time afterwards, in order that it may be brought to a proper condition for the production of graſs.' p. 436. 437.

With respect to the choice of seed-grain, Dr Dickson seems to think as we did when reviewing Sir Joseph Banks's pamphlet on the causes of mildew; and objects to the use of diseased or light grain as highly pernicious. With *another extract* on this matter, we shall finish our examination of this volume.

'In reſpect to the choice of ſeed of the grain kinds, as frequently as poſſible, it ſhould therefore be a rule with the farmer, to purchaſe or reſerve ſuch as is the moſt full, plump, ſound, and healthy, of whatever deſcription it may be, as it is only in this way probably that crops of good grain can be inſured. And this practice is further enforced from the circumſtance of its being in ſome meaſure the ſame with plants as with animals, that the produce is in a degree ſimilar to that from which it originated.

'But it is not merely on this principle, that ſuch grain as is ſmall, ſhrivelled up, and imperfectly fed, ſhould be rejected as improper for ſeed; but as containing a ſmaller proportion of farinaceous matter, and being thereby, as has been ſeen, leſs proper for affording that degree of nouriſhment and ſupport which is neceſſary to the young plants during the period of germination, or the firſt ſtage of their growth. Where ſuch ſeed, as is ſhrivelled up, and imperfectly ripened, is ſown, in general but a little of it vegetates, and that which does, moſtly ſends forth plants of a weak and feeble kind, that afford only a lean and ſickly ſort of grain.' p. 439. 440.

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It is now time to conclude this article with one or two general observations.

1st, This work, as already said, is constructed on a scale too extensive for the time, purse, and capacity of the common farmer; therefore, it occurs that the mass of agriculturists may derive less benefit from the undertaking, than otherwise might have been expected. To them it will remain in a great measure a sealed book; though, had a more limited size been adopted, the judicious instructions of the author would in many cases have been vastly beneficial to inexperienced agriculturists.

2dly, The method of arranging a didactic work, adopted by Dr Dickson, seems highly objectionable. We find no fault, because the materials of others have been selected; though, undoubtedly, had usefulness been studied, these would not have been gathered from sources in many respects heterogeneous, and of opposite tendency. The mind of the agriculturist, if his principles are not fixed, instead of being informed and instructed in this way, may, in fact, become unsettled and sceptical with respect to the several branches of agriculture, whether considered as a science or an art. Here we are reminded of the distracted condition of a gentleman farmer, who was rather a novice in husbandry, which will illustrate sufficiently what we have in view. This gentleman had ploughed an old grass park, which, according to the ordinary system, was seeded with oats; but in the second year, the most proper management was not quite so obvious. The tyro, therefore, applied for advice to a neighbouring gentleman, who farmed pretty extensively, and was directed to take turnips as a second crop. Wishing for further advice, another landed gentleman was consulted, who possessed the character of being still a greater farmer, and the opinion given was diametrically opposite. What! said the second adviser, would you raise turnips on a wet bottomed soil, which, after all, is not reduced, nor the turf consumed? Take drilled beans, and follow with wheat, in which way great crops may be gained; whereas, turnips would either be an unproductive crop, or, if productive, would cause ruin and destruction to the soil in the carrying off or consuming them. The poor tyro, thunderstruck with these contrary opinions, exclaimed, "Alas! alas! when doctors differ, what shall an ignorant man like me do? My situation is like that of the ass, placed between two bundles of hay, and I cannot ascertain the side to which I should turn, the opinions given being equally weighty and cogent." In like manner, will many agriculturists feel and reason, after examining the contrary doctrines given by Dr Dickson; though, had his *practical* [illegible] been regulated upon correct and ascertained principles,

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or communicated in a steady and consistent strain, numerous advantages might necessarily have followed, which, under existing circumstances, stand a chance of being neglected and overlooked. After all, much good has rarely been accomplished by *complete systems* on any art; but far less can be expected, when the system is discordant, or drawn from contradictory authorities.

Lastly, entertaining, as we do, a high opinion of Dr Dickson's good sense and liberal principles, we cannot but lament that these qualities have been so greatly misapplied on the present occasion. Had he extended the introductory branch, and described, at greater length, the moral evils affecting agriculture, we would have followed him with pleasure, because his principles are wise, and his judgment well informed. In our sight, the moral impediments in the way of agriculture are of greater importance than those which naturally affect the art. The first are entitled to primary consideration, otherwise the last may not be successfully removed. In a word, before the farmer can be taught to clean, drain, or manure with effect, he must be placed in a state of greater security and independence, and invested with full and more ample interest in the issue of every improvement than hitherto enjoyed. The burthens affecting him ought also to be distinctly ascertained, and not suffered in the slightest degree to remain arbitrary and undefined. Were these matters sufficiently attended to,—were farmers allowed to manage their own affairs with the like freedom as possessed by merchants and manufacturers,—then it might reasonably be presumed, that rural improvement would keep pace with that in other arts, and that its followers would gather knowledge as they proceeded. Few books are required to teach a trader improvement in his profession; and perhaps as few would be required by the farmer, was his situation equally unconfined and independent. Interest, the main incentive of human action, would prompt both with like force, were both placed under similar circumstances; and why this powerful principle does not operate, with vigour, on the one as well as the other, need hardly be elucidated in the present article.

We omitted to notice that a very great number of well executed plates accompany this volume. These, however, add greatly to the expense, without being, in our opinion, proportionally useful.

N.

BRANCH

BRANCH III.

AGRICULTURAL INTELLIGENCE.

WINTER, in reality, did not commence till the arrival of the months ſually characterized as belonging to the ſpring quarter; and February, larch, and the greateſt part of April, furniſhed weather remarkably old tempeſtuous, and ſtormy. In ſeveral diſtricts, the froſt was exeſſively ſevere, while in others it was accompanied by heavy falls of ow, which wetted the ground, and retarded ſeed-work conſiderably.)ver the whole iſland, vegetation was uncommonly late; and though he operations of ploughing and harrowing went briſkly forward in any places, particularly on the eaſtern coaſt, yet the ſeed depoſited in he ſoil has ſeldom remained longer in a dormant and inactive ſtate. atterly, a favourable change has taken place; and at this date, vegetaion proceeds with a rapidity proportioned to its former backwardneſs. The ſequences of froſt corrected the evils of a wet winter ploughing, nd mellowed the ground in a moſt complete way, without doing ſo much damage to the wheats as might have been expected. In ſhort, he proſpect at preſent may be regarded as favourable; in other words, is greatly ſuperior to what might have been looked for, previous circumſtances being duly eſtimated.

The grain market has of late diſplayed an appearance of being overocked, and dealers have been rather ſhy in making their uſual purhaſes. Various reaſons might be aſſigned why the demand has not qualled the quantity preſented, were we not ſatisfied that they are erely of a temporary nature, and may even be removed before this rticle meets the public eye. Perhaps the extent of grain held by the armer was ſeldom leſs at the firſt of ſummer than at this time, and hen it is conſidered that importations muſt neceſſarily be narrowed by he preſent ſituation of affairs on the Continent, there will be ſmall auſe to look for full ſupplies through the ſummer months. After all, he quantity of grain in the merchant's hand, is ſufficient to do away very dread of ſcarcity through the ſummer months. Oats, in our piniion, will be the ſcarceſt article, unleſs Ireland can furniſh a large upply.

Live ſtock, whether lean or fat, have experienced heavy ſales, chiefly wing to the general ſcarcity of turnips, and the late growth of graſs. We do not, however, apprehend that their numbers exceed what will be alled for, though, with ſuch articles, the market ſupply muſt always e regulated by the extent of *keep*, and the ſtate of the weather. Fat tock may be regarded as nearly of the ſame value with laſt year's; but

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our accounts from the breeding diſtricts incline us to think that the price of lean cattle is conſiderably reduced. Indeed the temptation to make purchaſes has hitherto not been ſtrong. Great ewes ſold nearly as laſt year, though in many caſes their condition was inferior.

The rent of land ſtill advances, and now bids defiance to every rational eſtimate. On this point, it would be ſuperfluous to offer a ſingle remark; becauſe the renters ſeem to be guided by no principle whatever, except a deſire to be uppermoſt. But if the market value of arable has increaſed, that of graſs land has advanced in a ſuperlative degree. In ſhort, a kind of mania ſeems to have ſeized the minds of graſs ſpeculators, not to be accounted for, and probably not to be cured, till the patient is weakened and exhauſted by the effects of his diſeaſe. What are we to think of the conduct of thoſe who confeſſedly loſt 25l. per cent. of their rents laſt year, and yet offered another 25l. per cent. of advance this ſeaſon! To ſay that ſuch conduct is fooliſh, is ſaying nothing to the purpoſe: another word, not in our dictionary, would rather be more applicable.

The happineſs and proſperity of a nation, depending more upon the wiſdom of its laws, and the mode in which they are adminiſtered, than upon any political regulations whatever, it gave us much pleaſure to notice, in a former number, (Vol. VII. p. 380.), the reſolutions offered to the conſideration of Parliament, by that able ſtateſman Lord GRENVILLE, relative to the adminiſtration of civil juſtice in Scotland. The ſubſtance of theſe reſolutions, in the ſhape of a bill, was, in February laſt, ſubmitted to the Houſe of Peers by his Lordſhip; and ſurely the contents of this bill were arranged in a more preciſe and diſtinct manner than thoſe of any one hitherto offered, either to that auguſt Houſe, or to the lower chamber of Parliament. That ſuch a bill is called for, we regard as a truiſm; and that its enactments are highly ſalutary and beneficial, appears to us, with the ſingle exception of requiring a jury to be unanimous, almoſt in the ſame light. It is not the object of this work to diſcuſs ſuch matters; but ſtill, as the intereſt of agriculturiſts is involved, it becomes our duty to offer ſome ſlight remarks thereupon, eſpecially as the ſubject is of a kind which muſt, leſs or more, be intereſting to every one who regards either the ſecurity of his own property, or the welfare of the public. It need hardly be added, that, while the great maſs of the people are altogether unconnected with the management of political affairs, the meaneſt individual has an intereſt in the right adminiſtration of civil juſtice. In fact, liberty can only be truly enjoyed where juſtice is impartially diſpenſed: Hence the people of England poſſeſs a greater ſhare of civil liberty than enjoyed by their northern brethren, though under the government of the ſame King, and under the regulations and ordinances of the ſame Parliament. We would care far leſs about the laws that are made, than concerning the ſyſtem by which they are to be adminiſtered, or carried into execution.

That the ſyſtem by which juſtice is diſpenſed in Scotland has many defects,

defects, will be admitted by the keeneſt oppoſer of Lord Grenville's bill. In fact, the ſyſtem has not hitherto been amended in a way to meet the ſpirit of the people, or, more properly ſpeaking, the changes which have taken place in ſociety ſince it was formed, or brought into practice. Scotland is a country which has more rapidly advanced in trade, and in improvement of every kind, within the laſt fifty years, than any country in Europe; therefore, if the legal polity of the country has not gained an equal ſhare of improvement, it, of courſe, muſt be inadequate and unfit to match or keep up with the advances made by the country in other reſpects. Except with regard to elections and bankrupts, few alterations have been made on the laws of Scotland ſince the period of the union with England; and as to the forms and practices of our law courts, they may be conſidered as ſtationary, and preciſely the ſame as at the above memorable era.

Now, what is propoſed by Lord Grenville's bill, but merely to reconcile the practice of our courts with the ſtate of ſociety; or, in other words, to enable the former to diſpenſe juſtice to the people in the moſt ſimple and economical manner? It is out of our province to inquire whether the Court of Seſſion ſhould be divided into two or three chambers; whether there ſhould be a court of review, or whether the inſtitution of ſuch a court would be an infringment of the articles of Union. Theſe matters we leave to others; but the queſtion concerning Jury trial cannot be paſſed over ſo ſlightly. This is an important ſubject; but we are ſorry to ſay, that the right is not eſtimated ſo highly by many people as we are warranted to rank it. Indeed the uſes and advantages of Jury trial, are hardly to be recognized by thoſe who are not in ſome ſhape acquainted with our ſiſter country, where it operates in full force, and where its advantages are completely aſcertained.

In every litigation which involves a fact, the iſſue muſt be more correctly determined by a jury, than by a body or ſet of men, whoſe minds are warped by legal prejudices, and who continually connect law and fact ſo much together, that at laſt the one is confuſed and obliterated by the other. The moſt part of law diſputes are of a ſimple nature in the firſt inſtance, and the object contended for only gets clouded and dimmed in proportion with the advances apparently made to elucidate or clear it up. We have ſeen a good deal of the law buſineſs of this country, and have at the ſame time not been inattentive to what has gone forward amongſt our ſouthern brethren. The reſult impreſſes us with a firm belief, that more buſineſs may be done in England in one day, than poſſibly can be accompliſhed in Scotland, even by the 'model of induſtry,' in a week. The object of every law court certainly is, to diſpenſe juſtice to the people; but if this *juſtice* is diſpenſed in a dilatory way, and at greater expenſe than neceſſary, then the original object is fruſtrated, and *injuſtice* is actually committed. That this is too much the caſe with our Scotch courts, no man will queſtion, who ever had a cauſe before them; but the fault does not lye [illegible] courts, but merely with the forms and practices by which their proceedings

proceedings are governed. We firmly believe, that no judges on earth are more aſſiduous in inveſtigating the truth, and more impartial in their deciſions, than our Scotiſh ones; but their aſſiduity is conſtantly counteracted by the mode of procedure with which they are hampered; while their deciſions, however impartial, are in many inſtances attended with ſuch expenſe to thoſe who obtain them, as to diſappoint the real object of juſtice. We are almoſt ſatisfied, that a reform of the adminiſtration of juſtice, would in reality be as great a favour to the judges as to the people at large, though, in the preſent ſtate of parties, we do not expect that this ſentiment will be generally admitted. Be this as it may, we are clear that a trial by jury, in every caſe which depended upon facts, would be a ſolid improvement upon the legal polity of the country; and a jury, aided by the direction of a judge or judges upon points of law, would determine with more correctneſs; and, what is of incalculable advantage, with more facility, than any bench of judges whatever.

We have noticed, with concern, ſome reflections thrown upon the people of Scotland, as if they were unqualified, from their particular habits, to receive the trial by jury; or, which is the ſame thing, that they were not capable of acting as jurymen, or diſpenſing impartial juſtice, if called upon to act in that capacity. In the *firſt* place, it may be ſhortly noticed, that, as education is more generally beſtowed in Scotland than in England, it may fairly be inferred, that the duties of the office would at leaſt be as well performed in the one country as in the other: And, in the *ſecond* place, it may be ſtated, that jury trial, of a certain kind, has already taken place in all the low country diſtricts of Scotland, whereby matters in diſpute betwixt man and man are determined in a way and manner from which no appeal can be taken. We here allude to the numerous arbitrations which conſtantly occur, and which prevail in ſeveral counties, ſo much, as far to exceed the extent of buſineſs done at the Sheriff courts. Were it neceſſary, we might alſo urge what is done in great towns by the Chambers of Commerce therein inſtituted, by whom almoſt every difference amongſt commercial men is ſettled. Such being the caſe, let us hear no more about the habits of Scotchmen being inconſiſtent with jury trial, ſuch opinions being either diſgraceful to the country, or to thoſe with whom they originated. If the forms of procedure in our courts are at variance with jury trial (and we believe they are), let them be amended and corrected in ſuch a way as to meet that beneficial mode of diſpenſing juſtice; but let not this be urged as an argument againſt jury trial. In a word, ſhall juſtice be delayed, and the public ſuffer, merely becauſe the form of proceſs, deviſed more than an hundred years ago, obſtructs and impedes a reformation? No. Form may be eſſential to the adminiſtration of juſtice, or it may be the 'handmaid of juſtice,' as characterized in a late pamphlet, but no particular form ſhould for a moment be allowed to ſtand in the way, and prevent juſtice being diſpenſed betwixt man and man in the ſimpleſt, eaſieſt, and moſt expeditious manner.

Lord

Lord Bacon ſays that 'knowledge is power;' in other words, that learning exalts the mind, and qualifies man for the performance of duties which otherwiſe would exceed his abilities. Some of our wiſe legiſlators ſeem to think differently, or, more properly ſpeaking, are for keeping power to themſelves, by withholding knowledge from the great maſs of the people, and reſtraining improvement of the human intellect. We here allude to the debate on Mr Whitbread's bill for the erection of parochial ſchools, a meaſure which aſſuredly would prove highly uſeful in a country where, at preſent, education muſt be purchaſed at a price exceeding the means of the lower claſſes. In Scotland, parochial ſchools were early inſtituted, at the expenſe of the landed intereſt; at them, reading, writing, and arithmetic, may be obtained for a trifle; and, in the caſe of paupers, the firſt branch of education is taught *gratis* in every pariſh. To theſe eſtabliſhments, the induſtry, ſobriety and ſteadineſs of the Scottiſh nation, has with much juſtice been attributed; and ſurely, when young people are taught the duties they owe to their God and to their neighbour, they muſt be afterwards much better qualified for paſſing through life with integrity and uprightneſs, than if heirt minds had been left uncultivated and uninformed. In fact, the queſtion will not bear an argument, unleſs it is taken for granted that the actions of men are not influenced by the nature and ſtrength of their underſtandings, or that the mental faculties cannot be enlightened and invigorated by art or education. Were theſe opinions correct, corporeal qualities would be every thing, while the mental ones would be undeſerving and inſignificant. But as our creed contains no ſuch principles; as we conſider the main diſtinction betwixt one man and another to ariſe chiefly from education; and view every perſon, whatever be his rank, either as perfect or imperfect, according to the degree of mental culture beſtowed, and its ſucceſsful or unſucceſsful iſſue;—we ſay, our ſentiments being deciſively in favour of a general diſſemination of knowledge among rational beings, it becomes us to urge the utility of Mr Whitbread's bill; becauſe, were it not paſſed into a law, the whole of the lower, and many of the middling ranks, muſt remain in ignorance, and without that improvement which the mind of man is ſuſceptible of in every country and in every ſituation. Let it not be expected, however, that the full advantages of the meaſure can be inſtantaneouſly obtained, or that the lower ranks would all at once be civilized and improved. Theſe happy circumſtances are not to be looked for during the exiſtence of the preſent generation; and it is only when another one comes upon the ſtage of life that the benefits of the bill could be ſufficiently recognized. Were the bill paſſed to-morrow, an immediate reformation, however deſirable, would not be produced; and thoſe who truſted to ſuch a reſult would meet with nothing but diſappointment. A certain period muſt elapſe before any improvement can arrive at maturity, or make a reliable return for the charges of execution. This we know for a certainty occurs in the natural world; and there is no reaſon for [illegible] the moral world is governed by different laws.——

SCOT-

SCOTLAND.

Clackmannanſhire ploughing match took place in two fields on
ll Farm, in the pariſh of Alloa, on Saturday the 14th March

ground was a lea, of part two, and part three years old; the ſoil
loam, and in good order.
ough the weather had not for ſome weeks been favourable for the
yet the morning turned out very fine, ſo as to admit the plough-
work pleaſantly, and afford a cheerful ſcene to the ſpectators.
match was intended for a competition of ſkill among thoſe
nen, who had gained premiums on former trials; but ſuch a
of time had paſſed ſince ploughing matches were firſt inſtituted
ſmall county, that ſome of the ploughmen were dead, others had
l to a conſiderable diſtance from the diſtrict, or betaken them-
o other occupations; ſo that only 28 ſuch ploughmen made their
nce, which were conſiderably fewer than what were expected.
r thoſe men had drawn their lots, and taken their ſeveral ſtations,
ceived orders to make their furrow ſlices 9 inches broad, by 5½
The ſignals were then given, and they all ſtarted together, about
ites before 11 o'clock.
e was ſtill a little froſt remaining in the ground, which rather im-
he work, and prevented it from having the poliſhed appearance it
otherwiſe have had. However, the ploughmen made excellent
nd gave univerſal ſatisfaction to the numerous ſpectators, ſome of
ad come from a conſiderable diſtance.
ſides of the largeſt field were irregular, ſo that ſome of the ridges
nſiderably longer than others, which of courſe made a difference
uantity of ground in the ridges allotted to each ploughman, and
es in the ſmall field were ſo exceedingly ſhort, that the quantity
nd in ſix ridges was leſs than moſt of the two ridges in the large

s intended to have given the premiums to thoſe who made the
k, in the ſhorteſt time; but owing to the indiſpoſition of the gen-
who had taken charge of having the ground meaſured, and of the
rrangements neceſſary with that view, it could not be got done
. The judges therefore attended ſolely to the goodneſs of the
ut as all the competitors had, at various times, gained premiums,
k was ſo well executed, that the judges found great difficulty in
them; at length they awarded

	Ploughmen.	*Maſters' Names.*
Firſt Prize to No. 11.	James Dryſdale	Mitchel of Balquharn
Second, No. 17.	James Wallace	Stein of Kilbagie
Third, No. 14.	A. Marſhal	Philp of the Dole
Fourth, No. 9.	James Griſham	Ditto
Fifth, No. 4.	Jo. Paton	Ditto

ntleman who was preſent has favoured us with the following ad-
information and remarks.

	Drydale.	Wallace.	Marſhal.	Griſham.	Paton.
Length of Ridges,	265 yds.	309 yds.	286 yds.	251 yds.	221 yds.
No of Furrows,	17	16	17	16	16
No. of yards travelled in ploughing the lot, . . .	9,010	9,888	9,724	8,032	7,514
Quant. of Ground,	1*r.* 18*f.* 32*e.*	1*r.* 24*f.* 24*e.*	1*r.* 23*f.* 20*e.*	1*r.* 15*f.* 28*e.*	1*r.* 9*f.* 4*e.*
Time in ploughing the ſame, ...	5 hours	5*h.* 20*m.*	4*h.* 35*m.*	4*h.* 20*m.*	3*h.* 50*m.*
Rate of Horſes walking per hour, ...	1*m.* $\frac{7}{10}$*f.*	1*m.* $\frac{4}{10}$*f.*	1*m.* 1$\frac{6}{10}$*f.*	1*m.* $\frac{4}{10}$*f.*	1*m.* $\frac{7}{10}$*f.*
The Quantity at this Rate in 8 Hours, ...	2*r.* 15*f.*	2*r.* 17*f.*	2*r.* 31*f.*	2*r.* 17*f.*	2*r.* 21*f.*
Ditto in 9 Hours,	2*r.* 28*f.*	2*r.* 29*f.*	3*r.* 4*f.*	2*r.* 29*f.*	2*r.* 33*f.*

N. B. Wallace and Griſham made their furrow ſlices rather more than the 9 inches.

The uſual quantity of ground of ſuch a ſoil ploughed in this diſtrict in two yokings or journies of four hours each (the furrow ſlice being 9 inches broad, by 5½ deep), is *three roods;* but this in a great meaſure depends on the length of the ridges, as may be ſeen by comparing two lots ploughed in the forementioned ploughing match.

By comparing	No. 1. in the Large Field	with No. 17. in the Small one.
Length of the Ridge, ...	179 *yards*	60 *yards*
No. of Furows, ...	17	17
No. of Yards in the Lot, ...	6,086	6,120
Quantity of Ground ploughed,	39 *falls*, 28 *ells.*	1 *rood*
Time in ploughing the ſame, . .	3 *hours*, 25 *min.*	4 *hours*, 17 *min.*
Rate of Horſes walking per hour,	1 *mile*, $\frac{1}{10}$*furl.*	6$\frac{6}{10}$*furlongs*
The Quantity of Ground at this rate ploughed in 8 hours would be, ...	2 *roods*, 14 *falls*	1 *rood*, 36 *falls*
Ditto, ditto, in 9 hours, ...	2 *roods*, 26 *falls*	2 *roods*, 6 *falls*

It has been nearly aſcertained that each turning takes up about half a minute, but then it is not eaſy to compute the loſs in time occaſioned by the horſes not being able to regain at once their natural ſtep.

It cannot be well expected, that men engaged in theſe ploughing matches, anxiouſly intent on ſetting off their work to the beſt advantage, ſhould

ſhould beſtow much attention to the pace of their horſes, or puſh them ſo faſt as they do when about their ordinary work. It is therefore not improbable but James Dryſdale, though he took ſuch a length of time in ploughing his lot, is yet in the cuſtom of making excellent work, and, at the ſame time, of ploughing an equal quantity of ground with his neighbours.

Upper Ward of Lanarkſhire Quarterly Report.

In this high diſtrict we have had an unfavourable ſpring quarter, and a backward ſeed time. The weather in March was continually froſty; the conſequences of which are, that many farmers have ſtill much ſeed-work to execute, while few or none are finiſhed. Laſt night a heavy fall of ſnow occurred, which wetted the ground, and ſtopt field-labour of every kind. Vegetation has hitherto not appeared, whilſt the ſtack yards are moſtly empty, and neither ſtraw nor hay is to be procured for love or money. If a change does not ſoon take place in the weather, the diſtrict will be in a worſe ſtate than ever it was placed.

Graſs parks have let about 20 *per cent.* higher than laſt year; and as for arable land, take the following inſtance of its market value. Colonel Bertram of Kerſewell lately let by public roup 20 acres of ground for one year, and to be ſowed with oats, at a rent not leſs than fifteen pounds Sterling per acre!——*April* 17.

Letter from Inverneſs-ſhire, April 20.

'The weather in February was variable, a great deal of rain and ſnow having fallen; nor was it much better in March, though a few pleaſant days occurred in the courſe of it. April commenced with a dreadful ſtorm from the eaſt point, which put a ſtop to work of all kind, and deſtroyed vegetation ſo effectually as to make graſs ground have an appearance almoſt ſimilar with the ſoil of ploughed fields. The corn yards hold out tolerably well, owing to the mildneſs of winter, which rendered the houſing of cattle not ſo neceſſary as uſual. I underſtand that the Caledonian canal will go on briſkly this ſummer. The embankments into the ſea at Clachnakary are faſt advancing, and the locks at Muirtoun will be ſhortly undertaken, the foundations being already cleared out. In ſhort, the work altogether is a moſt gratifying ſight; and I hope the trade which may be carried on will compenſate the expences of the undertaking.'

Tweeddale Quarterly Report.

When the tillage lands were ready for the ſeed, about the firſt of March a ſevere black froſt ſet in, which continued without intermiſſion through the whole of that month, and the firſt week of April. The ſeed proceſs was therefore long delayed, and even at this date the ſowing of oats is not finiſhed. Theſe froſts not only retarded ploughing and harrowing, but prevented vegetation, and occaſioned the beſt improven graſs fields to have no greater verdure than the bleakeſt up-land paſtures. After the 5th April, the weather aſſumed a more favourable appearance, but on the 13th became as bad as ever. On the 16th the greateſt fall of ſnow occurred which has happened this year, accompanied by intenſe froſt, which is the more diſtreſſing, as the lambing ſeaſon is begun,

while there is nothing but ſterility and barrenneſs in every ſituation. The ſtack yards are generally exhauſted, conſequently an univerſal ſcarcity of fodder prevails.

At the great ewe markets, prices were much the ſame with thoſe of laſt year. A ſevere mortality prevailed among the hogs or young ſheep through winter, occaſioned, it is believed, by the uncommon flow of ſoft graſs at the end of autumn; and the mortality has been ſo great as almoſt to annihilate ſome flocks altogether. The Cheviot breed, generally ſpeaking, ſuffered moſt; and what is ſurpriſing, old ſheep ſeldom throve better than at the time when the young ones were ſo rapidly carried off.——*April* 21.

Extract of a Letter from the diſtrict of Carrick, April 21.

'The weather, ſince the commencement of the current quarter, has by no means been favourable. From the beginning of February to near the middle of March, we have had almoſt conſtant ſtorms, with a great deal of rain, hail and ſnow. For about a month paſt the weather has been dry, with froſt at night and morning, and uncommonly ſevere for the ſeaſon: this allowed field work to go on, but has cut up vegetation, ſo that the cattle have to depend on hand-feeding nearly as much as in the middle of winter. As the weather has been ſo long dry, the beans and peas, and oats, have been put into the ground in a good ſtate. The fallows for bear, barley, turnip, and potatoes, have been completed. Grain markets are looking up; but, in conſequence of the ſcarcity of fodder, here, and chiefly in the ſouth, there is a general ſtagnation in the ſale of cattle. Few ſales, indeed, are made; and thoſe at ſuch a price as will not indemnify the owner.

'You will be able to form the beſt judgment of our grain markets from the fiars of the county, which were ſtruck about the middle of March; viz. Oat-meal 1l. 1s. per boll of 8 ſtone Dutch weight. Bear 1l. 12s. per ditto of 8 Winchester buſhels. Oats, 1l. 1s. 6d. ditto, ditto. Wheat 1l. 12s. per boll of 4 Winchester buſhels. Beans 1l. 6d. ditto, ditto. Peaſe 1l. ditto, ditto. This, I believe, is conſidered as not an unfair price for either the grower or conſumer.'

Weſt Stirling-ſhire Quarterly Report.

'Winter, which in this climate commonly ſets in about Chriſtmas, did not arrive this ſeaſon till a month afterwards. In the courſe of February, we had frequent black froſts, not unlike thoſe which are the uſual forerunners of the ſeverities of winter; and which often happen in the end of October, or the beginning of November. The intervening mows were introduced by a fall of ſnow, which gradually changed into [illegible] and ended in a high flood. During March, the weather became more moderate. The ploughing, which was conſiderably forwarded in the beginning of that month, ſuffered ſome interruptions about the middle; and the laſt ten days were ſo uncommonly favourable, as to enable farmers in the Carſes, and the adjacent riſing grounds, to finiſh their oat ſeed in a ſuperior ſtyle. It was only within theſe few days, that the weather has again ſmiled on the labours of the huſbandman; the

the ground, during the firſt week of April, being locked up with froſt and ſnow, and during the ſecond, being deluged with rain. The oat ſeed was begun only after that in the elevated diſtricts of the county; and nearly one half may now be imperfectly made, as the ground is there ſtill ſo wet as to be harrowed with difficulty. Laſt night (21ſt April) there has been a conſiderable fall of ſnow, which has this morning turned into a heavy rain, and threatens to poſtpone the remainder of ſeed-time *ſine die*.

The variable, and, in general, unfavourable weather of this ſpring, has been uncommonly injurious to all kinds of beſtial. The great depreſſion in the prices of black cattle, laſt autumn, induced many breeders to retain, and to winter, a conſiderable part of their ſtock, which ſhould have been then ſold. As there is as yet no vegetation, theſe have ſuffered conſiderably from the ſcarcity of food, and the inclemency of the weather. It is impoſſible yet to form an eſtimate of their marketable value. There appears to be ſome demand from England. Several hundreds of black cattle have gone thither laſt week from this county. The prices at which they have been bought here are ſtated to be low—ſo low, that none has ſold but thoſe who, from the approach of the term-day, have been obliged to employ this expedient to procure money for the payment of their rents; while every farmer of capital has preferred delaying his ſales till the ſeries of markets which determine the value of cattle during ſummer, held in the beginning of June in the weſtern parts of this county, and in the adjacent diſtricts of Dumbarton. The bad weather in the beginning of April had the uſual effect of haſtening the lambing ſeaſon; while the ſcarcity of food rendered the ewes weak, their labours difficult, and dead lambs numerous.

The markets, of late, have been gradually riſing. Fodder of all kinds is uncommonly ſcarce. The demand for hay in Glaſgow has exhauſted all the ſupplies in the neighbourhood; and, after traverſing ſucceſſively the counties of Dumbarton and Stirling, has reached the weſtern diſtricts of Perthſhire. On the banks of the Forth it is bought with avidity for that market at from 18d. to 20d. per ſtone. Seed oats are ſtill bought for the elevated diſtricts at 23s. per boll. Meal is ſold at 24s. per boll, and retailed at 1s. per peck. From the great demand from Glaſgow, where the markets have been ſparingly ſupplied for ſome weeks, the price of meal will probably continue to riſe; though the barn-yards have ſtill a reſpectable appearance in this diſtrict.——*April* 22.

Wigtonſhire Quarterly Report.

An open, rainy, winter has been followed by a backward, cold, and tempeſtuous ſpring. Labour is pretty well advanced, but vegetation has not yet made any progreſs, though the weather at preſent ſeems to be undergoing a favourable change. This is the more anxiouſly wiſhed for, as the ſcarcity of fodder is in general ſeverely felt, and its concomitant evils, reduced prices, and want of demand in the cattle trade. A new cattle market has juſt been eſtabliſhed at the town of Newton-Stewart, upon the confines of this county, a ſituation admirably adapted

for ſuch an inſtitution. It held for the firſt time upon Thurſday the 16th current; and upwards of fifty ſcore of cattle are ſaid to have been ſhewn upon the occaſion. A part only were ſold, and theſe at low prices. Corn, however, is a better concern, as markets ſeem to be on the advance for our ſtaple commodity, oats.

The tenants of the famous Baldoon eſtate have already made vaſt exertions in ploughing and ſowing,—ſomething, it is ſaid, like the enterprizes of deſpair; but, indeed, moderation in *their* mode of proceeding ſhould not be expected to anſwer the purpoſe. Efforts, the moſt active and perſevering muſt be followed out; for the grand criſis is in all probability rapidly approaching, when the *value* of the ſoil will be definitively aſcertained; and, not unlikely, part of the evidence will conſiſt of the bankruptcy of a few farmers, as a ſalutary warning to their ſolvent brethren. Neither wiſdom nor permanency belong to extremes.—— *April* 23.

Aberdeenſhire Quarterly Report.

The weather, which had continued mild and open previous to the date of laſt report, ſoon after altered; and, till a week paſt, all the rigours of winter have been experienced. Communication even on the turnpike roads, has ſeveral times been ſtopped, and all the other roads completely blocked up, with little interval, from the middle of February to the beginning of April. From the 7th to the 10th of that month, the ſowing of oats generally commenced; and though often impeded by froſt at night, and cold winds and ſhowers of ſnow through the day, may now be reported as finiſhed on the dry lands; but where the land is wet, much work remains unexecuted, while leſs verdure is to be ſeen in the fields than at Chriſtmas. Stack-yards have been thinned, during the quarter, at an unuſual rate; and a very ſmall proportion will remain unthraſhed over the ſummer. Except in the Aberdeen market, where oatmeal has advanced about 2s. per boll, there is no alteration in the price of grain ſince laſt report.

Vegetation being ſo backward, nothing has been done, either among cattle or ſheep, in the markets that have taken place. Beef has ſold at 7s. or 7s. 6d. per ſtone, ſink offal, through the ſpring; and the markets are plentifully ſupplied. The extenſive works carrying on in the county, in the making of roads, bridges, and other public jobs, keep up, or rather increaſe, the price of labour. This increaſe is beneficial to the lower claſſes in the firſt inſtance, and certainly may be reckoned as a proof of the increaſed proſperity of the country. The harbour at Fraſerſburgh is ſcarcely begun; but the great lines of road from Aberdeen to Banff, and from Aberdeen to Huntly and Keith, are completed; and what with forming, metalling, drains, bridges, and indemnifications, they have coſt, it is believed, fully 500l. per mile. The canal is finiſhed, and navigable to Inverury; but there is little proſpect of its being extended further for ſome time to come. It is in contemplation to make great improvements upon the harbour of Peterhead; this and other things ſhall be noticed in a future communication.—— *April* 24.

Letter

Letter from Glaſgow, April 25.

'SINCE our laſt letter of intelligence, the weather has been extremely unfavourable for putting the ſeed into the ground, and there is a conſiderable portion, particularly in the wet lands, ſtill to ſow; conſequently the preſent will turn out to be a very late ſeed-time.

'Our market, of late, has been well ſupplied with all ſorts of grain. Wheat is in great abundance, and the ſale very dull. Of barley there is a tolerable ſtock. Oats, and beans, and peas, are getting rather ſcarcer, and prices advancing.

'Throughout the ſummer no great ſupply of old foreign wheat will be required; a conſiderable ſtock being already on hand. The Britiſh, for a mixture, as uſual, will be furniſhed by the neighbouring counties. To Ireland we muſt look principally for our ſupplies of oats, as from every appearance this grain is now getting ſcarce in Scotland. From the determination of the diſtillers to ſtop working on the 1ſt of June, very little barley will be wanted till the next crop. Annexed you have a ſtate of our markets.

'*State of Glaſgow markets, April 25.*

Dantzic Wheat	42s. to 44s.	p. boll Linlithgowſhire meaſure.
Foreign Red do.	35s.—42s.	
Scotch do. (New)	38s.—41s.	
Engliſh do.	43s.—44s.	
American Wheat	45s.—46s.	p. boll of 240 lib.
Iriſh do.	34s.—38s.	
Iriſh Mealing Oats	24s.—25s.	do. of 264 lib.
Do. Inferior do.	20s.—21s.	do. Renfrewſhire meaſure.
Scotch Potatoe do.	24s.—25s.	
Do. Small do.	20s.—23s.	
Engliſh Potatoe do.	28s.—30s.	do. Stirlingſhire do.
Engliſh Barley	32s.—36s.	do. do. do.
Scotch do.	25s.—27s.	
Iriſh do.	25s.—27s.	do. Renfrewſhire do.
Engliſh Beans	26s.—27s.	do. Stirlingſhire do.
Scotch do.	24s.—25s.	
Scotch Grey Peas	23s.—24s.	do. do. do.
Do. Oat-Meal	24s.—25s.	do. of 140 lib.
Fine Flour	65s.—67s.	ſack of 280 lib.'

Perthſhire Quarterly Report.

A GREATER breadth than uſual was ſown with wheat, laſt autumn, on wheat farms in Perthſhire; and the cultivation is extended to much light and mooriſh land, where it was formerly underſtood that this ſpecies of grain would not come to maturity. Many farmers were induced to attempt this mode of raiſing the value of their farm produce, from the high rate of rents and wages; and all of them were enabled to do it, by the favourable weather during laſt ſeedtime. The firſt part of winter being likewiſe uncommonly mild and dry, even the latest ſown fields look well, excepting thoſe of inferior ſoils, where the

frofty nights and funny days in March have thrown out many of the plants. But our fpring feedtime has been lefs propitious, the weather having all along been cold or wet; and, though no great depth of rain has fallen, much feed has been put in on ill-conditioned land, efpecially on thin clay and mooriſh foils; and on that kind of foil a great proportion of oats is ſtill unſown. Fodder is not plenty, but the ſcarcity having been foreſeen at harveſt, people began to huſband it betimes, and now it will ſerve out the ſeaſon.

A mortality, greater than ordinary, has, this ſpring, taken place among our hill ſheep, eſpecially hogs. This may in ſome meaſure be accounted for by their not having got into proper condition laſt autumn. But ſetting that aſide, when the ſeaſon happens to be uncommonly ſtormy, that kind of ſtock is often unable to cope with the bleak north-eaſt blaſts of March and April, being always much emaciated by that time; for, with us, the owners of the Foreſt breed ſeldom think of providing any kind of winter or ſpring food.

Turnip-fed mutton, of this breed, now ſells in Perth at 7d., and beef at 7d. to 8d. per lib. of 22 ounces. Our prices of grain have been remarkably ſteady through the winter; wheat 38s. to 40s., and barley 24s. It was a ſhilling or two higher, till the report aroſe that the diſtillers were to be encouraged to diſtil from ſugar and molaſſes. The price then fell, and never has attained its former rate. As the difference in quality of different ſamples of our oats is fully 30 per cent., the beſt criterion by which their price may be aſcertained is the price of oat-meal; and in Perth market that is 1s. 6d. per peck.——*April 25th.*

Forfarſhire Quarterly Report.

From the beginning of February to the 23d current, there has almoſt been a continuation of bare froſts, and ſcarcely any of that genial weather which is ſometimes experienced at this ſeaſon; ſo that what has paſſed of ſpring 1807, may be characteriſed as more favourable for working the land than for the growth of plants.

From the great variety of ſoils in this county, it may be difficult to ſtate accurately when the ſowing of oats became general, as on ſome dry lands the oat-ſeed was over before it commenced on others of a different deſcription. A few fields were own about the 12th of March, but a ſtrong froſt prevented a continuation of ſowing till about the 26th, when the ſeed-time was general on dry lands; and even at this time ſeveral farmers, on cold expoſed ſituations, are not yet finiſhed. It may eaſily be inferred, from the cold ſtate of the weather, that vegetation has been ſlow; ſo much ſo, that braird on the fields, formerly mentioned as ſown on the 12th March, is but juſt appearing above ground. The backwardneſs of the weather has, however, been, in ſome degree, compenſated for, by the fine ſtate the land has been reduced to by the roſts, for harrowing and ſecond ploughing, both which proceſſes have been got in general moſt effectually executed. The ſowing of barley is juſt commencing, and, if the weather is favourable, will be nearly over in a fortnight. The extent of ground occupied by that grain is yearly diminiſhing,

diminiſhing, and will be conſiderably leſs this ſeaſon than for many paſt, as it is found by experience that a crop of oats after turnips is often of more value, and the prices of barley of late not ſo high as to encourage its culture much.

The wheats received a moſt ſevere check by the froſts in the beginning of March, and have ſeldom been witneſſed to have ſo withered and decayed an appearance; but a few days of ſoft weather, about the 26th ult. revived them much, and thoſe that were early ſown have now a freſh and growing aſpect. On thin lands they have not ſuffered ſo much by throwing out as might have been feared; and it will not be for ſcarcity of plants if the crop is deficient.

Graſs parks (void of herbage as they now appear) have let at rents higher than laſt ſeaſon, although it is well underſtood that the graziers' profit then was moſtly on the wrong ſide. This mania may poſſibly be attributed to the ſuperabundant ſtock of cattle in the country, and the additional extent of graſs ground broke up this ſeaſon reducing the quantity of food too much. Land-rent is alſo ſtill on the advance; every farm that is let exceeds the preceding one in rent; ſo that a leaſe is ſcarcely ſix months given when a profit could be obtained.

The quantity of grain on hand, at preſent, is not ſo great as laſt year at this period, particularly oats. Of that grain the preſent ſupply is not ſufficient for the conſumpt till crop 1807 is reaped, and the prices are accordingly on the riſe. Potatoe oats ſell from 23s. to 25s. per boll; Angus ditto from 20s. to 22s. Barley has been nearly ſtationary for ſome months, from 21s. to 24s.; and wheat alſo has not fluctuated much; preſent prices from 36s. to 41s. per boll. Our grain markets are entirely ruled by thoſe of London and Haddington.

There has been a demand for cattle; but the prices given by dealers are ſuch as leave little to the farmer for wintering. Owing to the ſcarcity of turnips and fodder, and coldneſs of the ſeaſon, cattle have fallen off much within the laſt four weeks.—*April 25th.*

Berwickſhire Quarterly Report.

Our weather during this quarter, though cold and ungenial, has been admirably calculated for correcting the bad effects occaſioned by the exceſſive wetneſs of that immediately preceding; having been generally dry, with a ſucceſſion of black froſts, whoſe mellowing influence reduced the ſoil to a fine ſtate of preparation for the harrow.

The ſowing of ſpring wheat commenced in January, and continued at intervals till near the middle of April: this practice, which has been increaſing ever ſince the heavy duty on malt took place, is now become very general. Bean-drilling was begun in February, when a few peas were alſo put in. Oat-ſeed commenced about the ſecond week of March, and barley in the beginning of April; but, having been frequently interrupted by froſts, and ſnowy blaſts, neither of them are yet altogether completed. Upon the whole, though our ſeed-time has been rather tedious, the harrowing has ſeldom been accompliſhed with greater eaſe to the labouring ſtock, or the different grains committed to the ſoil under more favourable circumſtances.

Ewes,

Ewes, in the low diſtrict, are far advanced in dropping lamb, and have twined uncommonly well; but, from vegetation being ſo extremely backward, the lambs have hitherto been poorly ſupplied with milk. Turnips remained ſound to the laſt, and were of great ſervice to the flocks; but they are now nearly conſumed.

Winter wheats, notwithſtanding the ſevere weather, ſtill continue to exhibit a ſufficiency of healthy plants. Young clovers, and paſtures of every deſcription, have all along been exceedingly bare; but, from the mildneſs that has taken place for theſe three days, they are beginning to aſſume a freſh verdure. Graſs parks, which roſe in value laſt year, have again been letting at a very conſiderable advance; a circumſtance which muſt be aſcribed to the preſent ſcarcity of keep, and to an extra quantity of land having been brought into tillage this ſeaſon.

Our corn markets have been very dull of late, and wheat has been dropping, in conſequence of the fall at Mark-Lane. Stack-yards begin to wear a vacant appearance, and will in many caſes be quite empty by the middle of May.——*April 26th.*

Berwickſhire Fiars, Crop 1806.

Wheat - -	L. 2	13	9	per boll of ſix buſhels.
Mealed barley -	1	6	0	
Lammermuir do. -	1	5	0	
Rough bear - -	1	4	0	
Merſe oats - -	1	2	0	
Lammermuir do. -	0	19	0	
Peas - -	1	8	6	
Oat meal - -	1	2	6	per boll, of 140 lib. avoirdupois.

Dumfrieſſhire Quarterly Report.

THE weather was ſo extremely changeable, that the ſeed ſeaſon has been dilatory and unſatisfactory. In the dry ſoils of the lower part of the county, the oats were generally ſown in the month of March; but in the upland and wet grounds, oat ſeed was only concluded laſt week. Thoſe firſt ſown are now above the ground, and ſeem to have met with little injury, though ſome loſs was dreaded from the extreme froſts.

The barley ſeed is now going forward on turnip land in good condition; and potatoes are planted by many people. The farmers of the old ſchool make it a rule, firſt to plant their potatoes, and have no anxiety though it ſhould throw their barley ſeed-time late. Thoſe who value the ſuperior quality of the grain, which is ſo eſſential a matter in barley, think it material to ſow early, as the value is known to depend upon the grain being filled before the nights lengthen; and the old objection to ſowing early, of the weeds outgrowing the braird, is happily done away by the culture of turnip or potatoes, when properly executed.

The wheat ſown before winter has continued in this county very healthy through the whole ſeaſon, and ſeems now generally forward and promiſing. The winter or early ſpring wheat is yet far back, and rather delicate. It will require a better ſeaſon than ordinary to make good a

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The demand for cattle in the early part of ſpring, before the heavy ſnow ſtorms, was very good; and thoſe who had aged bullocks were well paid for their wintering; but thoſe who have ſold lately, and had only younger ſtock, have not done ſo well.

The breeding ſtocks of ſheep did well through the winter, and in the ſpring, till the extreme froſty mornings and droughts, which brought the ewes very low in condition; and with the want of milk, there has been a conſiderable loſs of lambs. If the preſent fine weather continues, it may be expected that the ewes and remaining lambs will ſtill be good. The yeld and wedder ſheep have all along been in good condition. So far as ſales have been made, the prices are fully equal to thoſe of laſt year.——*26th April.*

Letter from Falkirk, April 27.

'If laſt winter quarter was generally noticed by your correſpondents as one of the wetteſt that had occurred for a long time, that of ſpring will probably be reported as equally remarkable for an unuſual long tract of dry weather, with ſharp black froſt, of uncommon duration. This kind of weather completely prevented the evils which, under different circumſtances, on clay ſoils eſpecially, might have been expected from the ſituation of the land at laſt report; and, on ſuch ſoils, the ſeed was never got into the ground in a drier ſtate, or harrowing more perfectly and eaſily performed, and finiſhed alſo in good time, although the afternoon only could be employed for that operation, on account of the ſeverity of the froſt in the mornings. But although, in the low-lying lands of the Carſe, a better ſeed-time cannot be remembered, in the high lands near us the ſame cauſes have thrown that proceſs very late. In ſuch ſituations the froſt was ſo ſevere, that very little, even in the afternoon, could be got done till lately; they are of courſe far behind. The weather, ſo favourable to our ſpring ſeed-work, has been moſt ſingularly unfriendly to vegetation, which is perhaps more backward than can be recollected at this period of the ſeaſon. It is only within theſe few days paſt that any conſiderable progreſs has been made. Although wheat has certainly ſuffered a good deal, and in ſome ſituations conſiderably thrown out, yet this has taken place to leſs extent than was generally expected after ſuch long continued black froſts, probably in conſequence of the extreme dryneſs of the land. What was ſown late after beans and potatoes, is not at preſent promiſing; but ſome of that, early ſown after fallow, which was very far advanced before froſt came on, is looking well. The young graſſes are generally thought to have ſuffered more from the ſevere froſt than the wheat has done. The general idea given in the Magazine after harveſt, that fodder (except that of wheat) was ſhort of an average, has been moſt ſeriouſly realized; for, ſince the years of dearth, ſuch a want of that neceſſary commodity has not been known. Many farmers in this neighbourhood are under ſerious apprehenſions whether they may have enough to reach graſs; and the diſtreſs of people about the town who have cattle, is almoſt incredible. The little hay that can be procured is at 1s. 6d. per ſtone;

ſtone; and oat ſtraw, which is ſtill ſcarcer, 10d. Indeed, little of either is to be purchaſed in this neighbourhood at any price; with the proſpect of its being ſtill higher.

'Notwithſtanding this ſtate of fodder, prices of grain have varied very little during laſt quarter. Stack-yards are indeed completely emptied; but the granaries along the canal are yet full. Wheat may be noted at 38s. per boll Linlithgow meaſure; barley 34s.; beans 24s. per Stirlingſhire boll; oatmeal 1s. 6d. per peck of 8 lib. Dutch. Our butcher market is equally ſteady. Beef in retail 8d., mutton 9d., veal 7d. per lib. tron of 22 ounces Engliſh. If rent of land let on leaſe, for tillage, has riſen greatly, that of graſs parks for the ſeaſon has advanced ſtill more remarkably, not leſs than 15 or 20 per cent. above laſt year.'

Fifeſhire Quarterly Report.

Cold froſty winds, with ſnow ſhowers at intervals, have generally prevailed through the ſpring quarter, and delayed ſeed-work conſiderably. Vegetation was alſo effectually checked, and no reſource left for the wintering cattle but ſtraw in the home yard, which of courſe was conſumed ſo faſt, as now to render the article extremely ſcarce. Hay advanced from 9d. to 18d. and 20d., p. ſtone, and potatoes from 5s. to 10s. p. boll, owing to uncommon quantities of this eſculent being given to cattle. Turnips were alſo of great conſequence, and were chiefly given to young cattle. The deficiency of fodder, and the total want of graſs, have occaſioned lean ſtock to fall conſiderably, many people being thereby compelled to ſell at ſuch prices as could be obtained. Under theſe circumſtances, the rent of graſs parks has advanced higher than ever known.

Several improvements, of great conſequence, particularly on public roads, are going on in this county. Inſtead of adhering to the original injudicious lines, marked out by caprice and intereſt, and which went up hill, or down dale, without regard to the advantage of the traveller, Mr Abercromby, a ſurveyor of firſt-rate abilities, was employed to ſtake out various new lines, every one of which, where his ideas were adopted, have turned out greatly to the public intereſt. The road (turnpike) from Newburgh to Kinloch, through a very hilly diſtrict, is now made in ſuch a manner, that a ſingle pull, or aſcent or deſcent, of any conſequence, does not occur in the whole of it; whereas, formerly, the whole way was up one hill and down another. The road from Dundee water ſide to New Inn, admirably deſigned by the ſame gentleman, is now completely executed. Another from Cupar to Newburgh, and from Cupar to Auchtermuchty, and to join the road from Kinroſs to Perth, will be of material ſervice to the country. Some deviation from Mr Abercromby's plan, it is ſaid, has been made near Auchtermuchty, which is to be regretted; and indeed the nobleſt deſign may be ſpoiled by injudicious management. From the Kirk of Beath, by Cowdelly and Auchterderran, down the Water of Orr, to the road from Kirkaldy to New Inn, lies a tract of country almoſt inacceſſible, having no public roads, although full of coal and limeſtone. This tract [illegible] ſtate of [illegible]. Therefore, ſome enlightened proprietors,

prietors, particularly Lord Roſslyn, Lord Minto, Mr Ferguſſon of Raith, and Mr Fergus of Strathan and Skeddoway, convinced that, without the accommodation of roads, their property was unimproveable, have been the means of laying out an excellent line of road, a good part of which is already executed, and the remainder will ſoon be completed. Very capital improvements are carrying on in this hitherto barren tract. But theſe being of too much importance to be detailed in a curſory report, ſhall be the ſubject of a ſeparate eſſay in the Farmer's Magazine, after the ſeveral facts and circumſtances are fully collected and ſufficiently aſcertained.—27. *April.*

Mid-Lothian Quarterly Report.

DURING the winter quarter, vegetation was never ſtopped, every vegetable continued green, although the firſt part of it was often accompanied with heavy daſhes of rain, which, in many inſtances, retarded ploughing, and in others that operation was executed imperfectly. But upon the arrival of the ſpring months, winter commenced. Froſt, ſnow and thaw ſucceeded each other, though, fortunately, with little rain; therefore the land wrought well at ſeed-time.

Seldom has ſuch a diſparity exiſted between the ſeed-time of the lower and higher diſtricts of the county; for while, in the former, ploughing, ſowing and harrowing, were got executed, and in good time, the latter was as much locked up by froſt as if it had been the midſt of winter, and often covered with ſnow to a conſiderable depth. When freſhneſs took place for a few days, the melting of the ſnow rendered the ground ſo very wet as to preclude its being touched for any purpoſe whatever: hence a late ſeed-time. Little was got done, in ſuch ſituations, until the middle of laſt week; and the ſowing of oats is not over.

However, until the 24th current, very little growth had taken place; ſince then, it has been remarkably mild and warm; and the vegetable kingdom ſeems to have leaped into the foſtering lap of midſummer at once. Should this continue, it will prove a fortunate relief to thoſe who are ſcarce of proviſion for their cattle, which is very generally the caſe.

The market has continued pretty ſteady for grain, without any great variation in price. Thoſe who held ſtock were under the neceſſity of thraſhing for their ſupport; while thoſe in the vicinity of the metropolis were induced, by the demand, to bring their ſtraw to market, as, in many inſtances, it yielded a price fully equal to one half the value of the grain. The ſtack-yards are therefore more empty than they have been remembered at a ſimilar period of the ſeaſon, unleſs in the memorable year of 1800, ariſing from the failure of crop 1799.

How markets are to rate, until next crop can be brought forward, muſt depend upon the ſtock of grain in hand in other parts of the kingdom, and alſo upon the ſupplies brought from foreign ports. At preſent, the market is well ſupplied; and the quantity of grain at Leith is pretty conſiderable, but moſtly of inferior quality.

Conſiderable

Conſiderable ſhipments of wheat have been made from France, under neutral clearances, for the port of London. This is generous in an enemy, who, while they refuſe to take any thing from us, are willing to give us our daily food; but it is highly probable that the ſo much hated gold of England has as powerful an influence in trading concerns, as in warlike matters. It may be remarked, that while the London market ſeems glutted with wheat, the average price of the kingdom continues ſteady without depreſſion.

Fat cattle have riſen a little, and it is probable will continue ſo for a prolonged period, ariſing from the lateneſs of graſs. Many ewes with lamb have appeared in bad condition; and lambs of an inferior quality will of courſe be the conſequence.——28*th April.*

Morayſhire Quarterly Report.

Since the date of laſt report, and until the bypaſt fourteen days, farm labour has been much at a ſtand in this county; and, from a ſeries of froſty weather and chilling winds, the winter wheat has ſuffered materially. In no ſeaſon is it recollected to have looked worſe, while the ſpring ſown begins to appear thick and vigorous; and if ſeaſonable weather now ſet in, as it has every appearance of doing, ſuch will, in all probability, pay beſt. The oat-ſeed has, even in this diſtrict, been three weeks later than uſual, and not yet completed; but it being in the power of every farmer to avail himſelf of the early varieties, now ſo much and ſucceſsfully cultivated, and as the winter ploughed clays have harrowed uncommonly well, there is no great hazard to be apprehended from the delay in ſowing; and as the cultivation of barley is much on the decreaſe here, the ordinary routine of farm labour will go on without much unuſual hurry.

There is a ſufficiency of fodder in the county, and hay plenty, at 6d. *per* ſtone of 20 lib. Amſterdam. Still the old ruinous trade of ſelling and buying corn and ſtraw goes on, to the mutual loſs of both parties; and, according to the prices given, fodder obtained in this way has coſt the purchaſer more than what a ſimilar weight of hay would have done: but this, like other practices, the offspring of prejudice and ignorance, it is hoped will ſoon ceaſe.

Here, as well as elſewhere, it was expected that prices of corn would have run higher than the ſtate of our home crop warranted; and, ſince the date of laſt report, ſeveral purchaſes have been made of wheat at 40s. *per* boll,—of barley at 25s. to 26s.,—and oats 18s. to 19s. *per* Stirlingſhire boll; but at theſe prices the merchant will, to every appearance, be left with a loſs, and the concerns hang heavy on his hands, as all unſold parcels do with the farmer. On the whole, we have at preſent very dull markets. No merchants, except for a very few fat, have yet made their appearance for cattle; nor, from the ſtate of the weather, could they have been looked for. Now, as it has ſet in fine weather, they may be expected, and will be welcome gueſts to ſuch of our farmers who wiſh to ſell on moderate terms, rather than interfere with graſs parks which ſet out of all bounds; of courſe, are become a hazardous concern. Indeed, keeping on, or purchaſing cattle for graſs,

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is now conſidered, and juſtly ſo, as a diſtinct branch of itſelf. and which the farmer will perhaps find that he had better give up to the grazier, as he does his grain to the corn-merchant: in this way, more men of capital might be induced to become cattle-dealers; and, with no interference on the farmer's part, graſs might be had on more moderate terms. conſequently better prices afforded for cattle, while all riſk and trouble is done away, If the people in this county, who have occaſionally combined the buſineſs of farmer and grazier, were to ſpeak out, it is believed that, by the latter, they would admit themſelves to have loſt conſiderably.

The breed of horſes, for agricultural purpoſes, in this county, has long been juſtly complained of; and now that farming operations are conducted with more ſkill and greater attention to economy, the want of active powerful horſes is particularly felt. To remedy this great evil, the Morayſhire Farmer Club, with a degree of ſpirit and liberality that does them the higheſt honour, have purchaſed a very capital ſtallion, Montalto, bred by the Earl of Groſvenor, and ſon to the celebrated John Bull, at the very unuſual price (in this county) of 200 guineas. He covered laſt year in Berwickſhire, where the breed and management of horſes is well underſtood, and has lately arrived from Northumberland, and is now commencing his firſt ſeaſon *here*, where the happy effects of it muſt be long experienced. The Club, with that regard to the general improvement of agriculture which always actuates their public conduct, have determined on letting him to ſuch farmers, not members of their ſociety, who chooſe to *ſend* their mares to him, and on the very ſame terms, too, as their own are ſerved.——*28th April.*

Eaſt-Lothian Quarterly Report.

EXCEPT the laſt eight days of April, vegetation was hardly recognized in this diſtrict during the ſpring quarter, all the horrors of winter being accumulated, almoſt in direct proportion with the increaſed length of day, till the ſpell was in a manner broken on the 23d *ultimo*; ſince which, the moſt genial and delightful weather has prevailed. As often happens after a backward ſpring, the growth of plants, whether corn or graſs, has ſince proceeded with ſuch rapidity, that were a perſon from foreign parts to viſit the diſtrict, he might, with ſome appearance of truth, maintain, that bad weather had only been dreamt of, not felt, within its bounds. In fact, barrenneſs and ſterility ſeldom diſappeared with greater expedition; and the face of nature, with a few exceptions, preſents a proſpect cheering to the beholder, and not often rivalled.

Though vegetation was ſo feeble and backward in the ſpring months, yet, as the want of it proceeded from an exceſs of froſt, the detriment ſuſtained was amply compenſated by the beneficial conſequences. In few ſeaſons has clays and loams wrought with more facility than in the preſent one; the ſoil being ſo completely mellowed, as to admit ploughing and harrowing with the greateſt expedition. A great deal of wheat was ſown in February and the firſt of March, when the wetteſt ſoils were

were in fine condition. Oat feed was generally finiſhed before the end of March; and, as for beans, an important crop in this diſtrict, it rarely happens that the drilling proceſs could be executed more ſucceſsfully. Some barley, after late turnips and ruta baga, remains to be ſown; but, on the whole, the quantity is ſo trifling, that the ſeed-work of the diſtrict may be reported as finiſhed. Potatoes are in a train of planting; and the fields intended for turnip, with many for ſummer fallow, have received the ſecond furrow. Indeed, field-work of every kind is more advanced than uſual.

Markets, both for grain and cattle, have of late been rather dull; though, as the former ſeems to revive, it may be expected that the other will ſhortly take a ſimilar turn. The ſtock of grain, with the generality of farmers, is inconſiderable; ſtack-yards at the beginning were not large; and the wetneſs of winter, with the lateneſs of ſpring, cauſed a great waſte of fodder: Hay is alſo a ſcarce article.

Two improvements in this diſtrict may be noticed; 1ſt, The bringing in and ameliorating a conſiderable piece of hilly ground, hitherto apparently waſte, though in reality good ſoil, lying on the water ſide, and weſtward of the village of Linton, by George Rennie, Eſq. of Fantaſſey; and, 2dly, The diviſion of Linton commonty, proſecuted by the ſame gentleman, whereby a nuiſance or eye-ſore to agriculturiſts promiſes to be ſoon removed. The firſt mentioned improvement has been accompliſhed by digging, trenching, and cleaning the ground ſubſtantially, and afterwards planting it with garden and foreſt trees, whereby a delightful plantation and a valuable orchard may, in proceſs of time, be reared, ornamental to the neighbourhood, and advantageous to the proprietor. The narrow limits of a report preclude a detail of the operations judiciouſly planned and attentively executed on this occaſion by Mr Rennie; but theſe ſhall be taken up afterwards, and form the ſubject of a ſeparate article.—— *30th April.*

May 9th.—Since the above went to preſs, a ſerious reverſe of weather has taken place. On the night of the 30th of April, a thunder ſtorm occurred, and ſince that time cold winds, accompanied with a good deal of rain, have conſtantly prevailed, whereby the progreſs of vegetation has been materially impeded.

ENGLAND.

Northumberland Quarterly Report.

THE fine open winter was particularly favourable for getting the greateſt part of the arable lands ploughed, which being ameliorated and pulverized by the ſucceeding froſts in February, were in an exceeding fine ſtate for receiving the ſeed; and probably there never was a greater quantity of wheat put in from the beginning to the middle of March; almoſt every acre that was cleared of turnips being ſown with that grain. As the demand for barley has of late years been ſmall, moſt people endeavour to grow as little of it as they poſſibly can. From the [illegible] the wheat ſowing was finiſhed, to the end of March, the greateſt [illegible] the land being ſo dry and well prepared

prepared by the froſt, that nearly double the quantity was harrowed in the ſame time as is done in ordinary ſeaſons. From the 31ſt March to the 5th April, we had ſevere froſts, with daily ſhowers of ſnow, by which nearly a week was loſt in arable operations; a loſs of great conſequence at that ſeaſon. The freſh weather, from the 6th to the 13th, gave ſome appearances of verdure; but on the 14th, the froſt, with ſnow, ſet in again, and completely checked the vegetation that had begun in the clovers and graſs lands. This is the more ſeverely felt, as there never was known ſuch a want of turnips in the diſtrict, moſt of the great turnip farms being entirely deſtitute of this valuable root, and obliged to have recourſe to corn for carrying on their fat cattle and ſheep, as well as ewes and lambs. The failure of turnips is principally owing to a rot from the root: the ſcarcity is ſuch, that turnips were ſold, three weeks ſince, for 15l. per acre; and would now, from the additional and unexpected ſevere weather, ſell for more.

It is much to be feared that the autumn ſown wheats have ſuffered from the intenſe froſts and ſunny days. Their preſent appearances are very ſuſpicious.

Our ſtack yards are not ſo full as they generally are at this ſeaſon, and much ſhort of what they were laſt year; yet the corn markets are getting lower. Wheat, from 64s. to 67s.; Barley, 24s.; Oats, from 24s. to 28s.; all per quarter.

The markets for fat ſtock have been very low all winter; and cattle, as well as ſheep, have paid but little for their turnips. Thoſe that can keep them a while longer, may have ſome proſpect of being better paid, as probably the want of turnips has occaſioned the markets to be overſtocked. The preſent prices are from 6s. to 7s. per ſtone of 14 lib. ſink, for beef; and from 6½d. to 7d. per lib. ſink, for mutton.

The crop of lambs of the long-woolled kind is very abundant; of the Cheviot lambs, I am afraid there will be great loſs, from the ſeverity of the weather.——*April* 18.

Norfolk Quarterly Report.

The fine weather after harveſt, allowed a favourable ſeaſon for ſowing wheat, and occaſioned a rapid vegetation; and the plant, being nouriſhed by a peculiarly mild and open winter, acquired, in the middle of February, a more luxuriant appearance than is uſually ſeen at that ſeaſon on the light ſoil of this county. It received, however, a check at the latter end of that month, and the beginning of March, which, for a time, changed its green to a ſickly pale brown; yet, ſo powerful was the root, that it ſoon recovered the ſhock, and at this moment exhibits an abundant plant, and a verdure more lively than at any time remembered ſo early in the ſpring; and perhaps the check will prove favourable to its productive powers. Vegetation, for ſix weeks paſt, ſeems to have remained perfectly at a ſtand; indeed, for the ſpring crops, it ſcarce appears yet to have come into action. Peas, ſown in the latter end of February, only now begin to appear; and oats are ſtill impriſoned in the ground, after having been for ſome weeks committed to it. There remained ſo few turnips in the ſpring to pre-

vent the tillage of the lands allotted to barley, that the ſowing of this grain commenced rather earlier than uſual. The land works well, though ſcarce a day has lately paſſed without a heavy fall of hail and ſnow, attended with intenſely cold winds; and, ſhould a change to warmth and ſunſhine not ſoon take place, it is to be apprehended that much of the ſeed may periſh in the ground, and that what does vegetate will come up pale and yellow; colours but too often ominous of a deficient crop.

Vetches are backward. The artificial graſſes exhibit a thin and ſickly plant; and it muſt require ſome weeks, even of favourable weather, to produce the uſual quantity of ſpring food for cattle. A few turnips are ſtill left, and theſe are ſelling readily. Very little ſtraw remains for lean ſtock, and conſequently hay obtains a high price—from 4l. to 5l. per ton.

The fall of lambs has been abundant; but the loſſes are more than commenſurate: of ewes, in many inſtances, ſevere indeed. Perhaps, however, there remains nearly an average crop. The price of barley has continued tolerably ſteady through the ſeaſon, and may certainly be deemed good, though it has not, I imagine, quite anſwered the ſanguine expectation formed by the farmer, when he ſurveyed his ſcanty produce at the concluſion of harveſt. The quantity of barley remaining in the hands of the farmer is inconſiderable. Of wheat, he holds, it is believed, the full average of the ſeaſon.

Periods of war, and a year of general elections, are not favourable to active ſpeculation, either in trade or agriculture. Perhaps it is no mean praiſe to ſay of the Norfolk farmer, in ſuch circumſtances, that if he has not introduced any recent improvements of importance, he has not ſuffered any, he had adopted, to drop or languiſh for want of liberal expenditure and practical exertion. A new drill machine is very generally uſed in this neighbourhood, which is ſuperior to Cook's in the following advantages. It requires no alteration in going up or down hill; it will, with great preciſion, ſow three or four buſhels per acre; and, when ſet for either of theſe quantities, it can be ſecured by a lock from alteration; ſo that you do not depend on the honeſty or the attention of the ſeedſman with regard to the quantity ſown.——*April* 20.

Letter from a Gentleman near Canterbury, April 26.

'We have experienced a very variable, cold, and backward ſpring, after a very wet, mild winter. From the wet being ſucceeded by ſpring froſts, the ground worked uncommonly mellow and well for the ſpring corn of all kinds; and the ſeed has been depoſited in capital order. The wheats look extremely well, and, with the graſs, are now rapidly advancing. We have had, for theſe few days paſt, exceeding fine warm weather, which, from the ſettled ſtate of the barometer (now 29 5/8), ſeems likely to continue ſome time. The bloom on the wall-fruit-trees, and the cherry and plum-trees, is opening very kindly; and, ſhould the preſent warm dry weather continue, will moſt likely ſet well, and produce a good crop. The wheat-markets have remained [illegible] There certainly is not more in hand than uſual at this time of year,

year, in the county; *probably leſs*, as ſome farmers have finiſhed thraſhing ſome time ſince. Some of Ball's two-horſe power thraſhing-machines have lately been erected in this county; and a very ingenious mechanic and farmer, Mr William Pain, of Throwleigh, has lately invented one to work with *one horſe*, which, I underſtand, anſwers very well.'

Letter from a Gentleman in Lincolnſhire, April 26.

'AGREEABLE to your requeſt, I applied to the Right Honourable SIR JOSEPH BANKS, Bart., for his permiſſion to furniſh you with a copy of the petition to him from certain owners of the fens, and of his reply thereto, which was immediately obtained. The petition and reply are therefore encloſed, which will ſatisfy you, that this attempt to impede a moſt beneficial improvement, has been completely fruſtrated.

'The fens contain 40,196 acres, 3 roods, 3 poles; and, ſuppoſing 1000 acres deducted for roads and ditches, there will remain 39,196 acres; beſides many old encloſed lands, which will be equally improved, and which, by the act of Parliament, are to pay one ſhilling *per* acre *per annum* towards the annual repairs of the works. The expenſe will be 526,463l., which, with the value of land cut and covered, being 15,000l., amounts, in whole, to 341,463l. About 250,000l. is already expended, and it is eſtimated that 76,463l. more will complete the works of drainage, which will be the moſt effectual buſineſs of the kind ever executed in this county. About 100,000 acres of fen-land have been drained and encloſed in this county before, in the diviſion of which I often acted as commiſſioner. Theſe were embanked round each parochial fen, and the water pumped by engines over the banks into the main river; the conſequence of which was, that, when the wind did not blow, the ground was ſtarved with wetneſs. In reality, we could not do otherwiſe, not having ſuch extenſive powers to cut through ancient encloſed rich paſtures, to deepen into the ſea, as Sir Joſeph obtained in his Fen Act of Parliament.

'We have had a great deal of froſt and ſnow; but the weather has of late become much finer. Cattle-markets, for ſome time paſt, have been on the decline. Two-year-old ſheep ſell, at preſent, from 45s. to 55s. per head; lamb-hogs, or one-year-olds, from 35s to 45s. Beef, 7s. to 7s. 6d. per ſtone. Mutton, 7d. per pound. Wheat, 60s. to 72s. per quarter. Barley, 36s. to 42s. Oats, 21s. to 28s. Wool, which laſt year brought 32s. per tod of 28 pound, is now, from 26s. to 28s. As for land-rents, the *high-priced landlords* aſk about 40s. per acre, for the beſt fen-land; ſuch as Sir Joſeph, and other patriotic proprietors, let at from 21s. to 28s. per acre, ſtatute meaſure.

'*To the Right Honourable Sir* JOSEPH BANKS, *Chairman of the Meetings for Draining the Eaſt, Weſt, and Wildmore Fens.*

'WE, the underſigned, having common rights in the Eaſt, Weſt, and Wildmore Fens, ſeeing very expenſive works of drainage, after above five years, in a very unfiniſhed ſtate, and other works ſcarcely yet begun; and believing that ſuch large works (through the want of ade-

quate ſupplies of water, will rather prevent than promote an effectual drainage, and having advanced 363,290l., and not being allowed to ſee a fair, plain, intelligible account of the expenditure of ſuch a ſum, and regretting that no regular meeting of the commoners in the county has been called by the Chairman ſince that at Boſton in 1800, before the works commenced, do earneſtly requeſt, that the Right Honourable Sir Joſeph Banks will be pleaſed to order the clerks to advertiſe a meeting of the commoners in the preſent year, to be holden within the Soke of Bollingbroke, at the town-hall in Spilſby, to take into conſideration the preſent ſtate of the above works, and what will now beſt promote, and at the leaſt expenſe ſooneſt complete, the effectual drainage of theſe fens.—*Nov. 14th*, 1806. (Signed) EDWARD WALLS and others.'

'GENTLEMEN, *Soho Square, Dec. 6. 1806.*

'FINDING myſelf leſs infirm in the courſe of laſt autumn than I uſually have been at that ſeaſon, I took the opportunity of viewing, in company with Mr Rennie our engineer, and Mr Bower his aſſiſtant, every part of the new works intended for the drainage of the fens.

'In the courſe of this view, I minutely examined into their preſent ſtate and condition, and inquired into the particulars of their execution, their coſt, and the prices at which timber, ſtone, lime, and other neceſſary articles that could not be obtained on the ſpot, have been purchaſed.

'I had much ſatisfaction in finding that the works, as far as they have proceeded, have been executed with a degree of correctneſs and ability *which does* credit to the excellent plan of our able engineer; that effectual care has been taken to prevent the contractors from gaining more than an adequate price for the work they have done; and that the materials procured from a diſtance, and more eſpecially the ſtone, of which immenſe quantities will be uſed, are of a ſuperior quality, and have been purchaſed at moderate prices.

'Mr Rennie's plan of drainage is calculated, not only to protect the level againſt the effects of ordinary floods, but to ſecure it againſt the devaſtations occaſioned by thoſe extraordinary inundations, which occur ſeldom, but, when they do occur, riſe many feet above the level of ordinary floods, any one of which, by breaking into a well cultivated country, as the fens muſt ſoon become, might do more damage to the property of individuals, by deſtroying their crops, than the whole of the money that will be expended in the preſent undertaking would compenſate. It is alſo calculated to prevent the eſcape of freſh water to ſea, except in time of floods, till the level has received all the benefit of watering it is poſſible to derive from it.

'The expenſe of carrying into execution a plan ſo extenſively uſeful, muſt, of neceſſity, be conſiderable. The promoters of it were not, however, deterred by the coſt, from adopting the moſt extenſive ſcale of improvement. They were aware of the grievous loſſes many of their neighbours had ſuſtained, by erecting, under the influence of an ill-timed economy, works inadequate to the purpoſes they were intended to anſwer; and

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they ſtill ſmarted under the effects of the Witham Act, in which proviſions for the embankment of that river from Boſton to Lincoln, and for the drainage of all the adjoining fens, were inſerted; but funds ſo inadequate to the execution of theſe moſt uſeful works were provided, that ſcarce one-third of the embankment has yet been completed; and the proprietors of every one of the fens which were to have been drained, Wildmore and Weſt Fens included, hopeleſs of any further advantage from the taxes they had ſubmitted to, have been compelled to ſeek new expedients, and to raiſe new funds, in order to complete the drainage, with which the promoters of the Witham Act promiſed to provide them near 40 years ago.

'The eſtimate given in by Mr Rennie was large, but it was adopted with zeal, and without heſitation, though it was declared it would fall ſhort of the actual coſt of the undertaking, as it related to the works only, and did not include the value of the land to be purchaſed. Thoſe who wiſh to compare the eſtimate with the actual coſt of the drainage, muſt recollect, that ſeveral expenſive works were ordered by a ſubſequent act of Parliament, and alſo that materials of all kinds have riſen conſiderably in price ſince the buſineſs was undertaken; and that the competition ariſing from the vaſt excavations of the London docks, and the Government Canal in Kent, has enhanced the price of the labour of *embanking* and *draining*, in as great a proportion.

'We ought alſo, before the amount of the coſt of the works is taken into conſideration with a view to cenſure, to recollect, that by the influence of good fortune, combined with good management, the value of the land ſold, to raiſe a fund for defraying the expenſes, has been increaſed in a ſtill greater proportion than the coſt of the works has been enhanced, and that it has actually been ſold at a price at leaſt 20 per cent. higher than the ſpeculative value of the moſt ſanguine proprietor, I have ever met with, reached. The neceſſary conſequence of this is, that if the amount of this advance of 20 per cent., which now attaches itſelf to the whole of the property, ſhould be expended in drainage, diviſion, &c. the value of the proportion of land returned to the proprietors, when all is finiſhed, will be as much as they themſelves thought the whole level to be worth when they delivered it into the hands of the commiſſioners.

'Impreſſed with theſe views of the ſubject, and convinced as I am that every part of the works has hitherto been carried on with a proper attention to economy; that they have been carefully ſuperintended, and their execution, in conſequence, been unuſually ſucceſsful; that thoſe parts of them already finiſhed, are in all reſpects fully adequate to the purpoſes for which they were erected; and that, when all are completed, the whole level will be effectually drained and ſecured from every future hazard from water,—you will, I truſt, candidly admit the evident impropriety of my calling a meeting for the purpoſes ſtated in the requiſition I have received, howſoever deſirous I may feel to comply with the requeſt of the gentlemen, my neighbours, who have ſigned it.

'The execution of the works, which was in the beginning impeded

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by circumſtances that are now removed, proceeds at preſent with activity and deſpatch.. All the perſons employed in directing them appear to be maſters of the details of their reſpective departments; there cannot, therefore, be any juſt reaſon to doubt, that the whole will be completed in a reaſonable time, and the commiſſioners enabled to reſtore to the proprietors, in return for a drowned fen, incapable of profitable occupation, a well drained and well watered level, which they may occupy in paſture, or in arable, at their option, without fear of their ſheep being rotted by the ſoccage and downfal reſting on their lands; their crops ſpoiled by floods, or their ſoil ſwept away by inundations; and that this will happen ſhortly, unleſs thoſe who are engaged in the execution of this great national improvement, are haraſſed and interrupted by the raſh and ill-timed proceedings of inconſiderate or ill-informed perſons.

'I have never hitherto heſitated, and am confident I never ſhall *hereafter* heſitate, to call together my neighbours, when, in my opinion, their meeting is likely to be productive of benefit to themſelves, and of advantage to their country. In the preſent caſe, I can diſcover no proſpect of advantage either to the one or the other, by holding the meeting in queſtion; nor, indeed, any reſult, other than a ſpeedy conviction on the part of thoſe who may happen to attend it, that their preſence is totally unneceſſary, and the meeting itſelf utterly and entirely uſeleſs.

'Theſe my opinions, like thoſe of every other individual, may be erroneous; but I have ſpared no pains, in forming them, to place them, as far as I have been able, on a ſolid foundation; I have eſtabliſhed the facts on which they reſt, on the baſis of perſonal inſpection, and information derived from principals.

'If, under theſe circumſtances, Gentlemen, I act improperly in your opinions, I muſt truſt to your candour and impartiality for forgiveneſs; and I beg you to be aſſured, that the pleaſure I ſhould enjoy in complying with the requeſt of ſo many of my reſpectable neighbours, would induce me to make great ſacrifices of my own opinions, if I could in any ſhape convince myſelf of the propriety, or even of the expediency, of the meaſure you have propoſed.

'I am, Gentlemen, your obedient humble ſervant, Jo. Banks.'

'To the Proprietors of Common Rights in the E. W. and Wildmore Fens, who have ſigned a Requiſition to Sir Joſeph Banks to call a Meeting at Spilſby.'

Letter from London, 27. April.

'We do ourſelves the pleaſure of handing you a ſtate of our markets and prices; from which you will obſerve, that the variation between our prices now, and thoſe tranſmitted for laſt Magazine, is unuſually ſmall; and you will alſo obſerve, that our idea expreſſed in January, of its being more to be attributed to the extended cultivation of land, that our market kept ſo well ſupplied, than to the late crop being better than had been calculated on, has in a great meaſure been confirmed by the reſult, at leaſt thus far; for although we have had occaſional ſupplies from abroad, (including recent arrivals of flour from America, and wheat from France) ſtill the foreign ſupply altogether has been very inconſiderable,

le, whilſt our market has had a continual fulneſs in it. We are ver of opinion the ſupply from the coaſt muſt from this time fall With regard to the proſpect of foreign ſupplies, it is a matter treme uncertainty as to what the quantity may be; but there is doubt we ſhall continue to receive them from time to time.

'he wheat on the ground in the neighbourhood of this city, is con-d as looking very well, and the ſeaſon cannot but be favourable eding the ſpring corn land.'

'State of London Markets, April 27th.

it - - - -	50s. to 69s.	
- Fine White Eſſex and Kent	85s. — 88s.	
- Norfolk - - -	56s. — 72s.	
- Fine White - -	78s. — 82s.	
- Berwick - -	58s. — 66s.	Fine 76s.
- Northumberland -	75s. — 80s.	
- Dantzic and Zealand -	60s. — 78s.	84s.
- Riga and Peterſburgh -	52s. — 62s.	
- Archangel - -	44s. — 58s.	
- - - -	42s. — 44s.	
r - - - -	30s. — 33s.	36s. Fine 40s.
- - -	54s. — 65s.	68s.
Fine Norfolk - -	70s. — 74s.	
: Peas - -	56s. — 66s.	Boilers 80s. to 90s.
ditto - - -	42s. — 46s.	
n Beans, old -	45s. — 48s.	New 43s. to 45s.
ditto, old - -	39s. — 43s.	New 34s. to 38s.
Spring Tares - -	100s.	
Long Feed - -	20s. — 23s.	6d.
Short Smalls or Friezlands	24s. — 27s.	Fine 29s.
Polands - - -	25s. — 29s.	Fine 31s. to 32s.
Potato - - -	30s. — 32s.	Very fine 33s.
Cloverſeed, Engliſh -	32s. — 63s.	75s. per cwt.
do. Old Foreign -	35s. — 45s.	French 50s. to 63s.
do. New ditto -	50s. — 60s.	Ditto 58s. to 65s.
: Cloverſeed - -	40s. — 70s.	90s.
il - - -	8s. — 14s.	25s.
rafs - - -	18s. — 32s.	per quarter.

Flour delivered to the bakers 65s. per ſack.

Flour by ſhipping 56s. to 58s.'

Yorkſhire Quarterly Report.

E late ſeed-time has, on the whole, been tolerably favourable; n, perhaps, one of the longeſt in point of duration that was ever n, from the frequent occurrence of froſt and ſnow. The aſſiduous idman, however, employing thoſe intervals of fair weather which ed the ſoil capable of every operation, ſucceeded in the buſineſs mitting the ſeed to the ground, to the utmoſt of his wiſhes. We irly infer, that if we have a tolerable ſupply of moiſture and warm r, at leaſt as good a produce as uſual may reaſonably be expected.

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The ſupply of wheat, &c. on hand, is conſiderable, and probably at leaſt equal to that at the ſame period of laſt year. Certainly much waſte muſt enſue by the war on the Continent; but, as conſiderable importations are expected from America, probably that may be in ſome degree counterbalanced. Some ſpeculators, indeed, argue that an advance muſt take place during the ſummer; but theſe things depend on circumſtances at preſent enveloped in doubt and conjecture.

Fat cattle and ſheep are at moderate, though fair prices; lean cattle are cheap, poſſibly from the backwardneſs of the ſpring. Hay is dear, and in much demand, from 4l. to 6l. per ton. Good horſes are ſtill at extravagant prices.

The growing wheats and ſeeds on the beſt lands in good condition, are very promiſing: not ſo thoſe on ſtrong and poor ſoils. The ſpring froſts have much injured them, by expoſing their roots; ſo that many of the latter deſcription are very thin.

The lambs having fallen in the worſt weather, required very diligent attendance of the ſhepherd; but the loſs has not been unuſually great. The weather is now dry and hot; extremely favourable for the turnip fallows; many of which are in great forwardneſs.——1ſt *May*.

NOTICES TO CORRESPONDENTS.

The *Eſſay on Potato Huſbundry*, and the *Deſcription of a Farm Steading*, by Mr ERSKINE of MARR, are poſtponed to next Number. It was our wiſh to preſent both in the preſent one; but circumſtances occurred which rendered a delay neceſſary.

Had the letter from SEVERUS reached us in time, his inſtructions would have been complied with; but, unluckily, *his Deſcription of Inverneſs-ſhire Huſbandry* had previouſly gone to preſs, and could not be amended. We thank him for the *Account of Huſbandry in France* recently received.

It has been out of our power to examine the *Letter from Cumberland*, and S. L.'s Letter; but attention will be paid them as early as poſſible.

A great many other communications have been lately received, which time will not allow us to particularize. The authors may, however, depend that care will be uſed to bring them forward with all convenient deſpatch.

Notwithſtanding that eight additional pages are given, we have been under the diſagreeable neceſſity of withholding the Inverneſs, Roſs, Banff, Selkirk, and Annandale reports, together with the letters of intelligence from Langholm, Wales, and Eaſt Riding of York, and alſo to abridge almoſt every other article. A greater ſpace ſhall in future be devoted to the third branch, ſo as the favours of our numerous reporters may be regularly inſerted.

Erratum—In p. 206, eleven lines from bottom, for *thirty-eight* horſes, read *thirty* horſes.

No. XXVI. will be publiſhed on Monday 9th Auguſt.

... NTED, EDINBURGH.

THE FARMER'S MAGAZINE:

AUGUST 1807.

(No. XXXI.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Farm-Offices, with a Plate.

SIR,

I HAVE repeatedly perused, with pleasure, your intelligent correspondent R. r. r.'s Letter on the Construction of Farm-Yards, inserted in your useful Magazine for May 1805, and beg leave to return him my thanks for the many valuable hints that I have received from it.

I trust, however, that he will not be offended at my pointing out, what I think to be errors in his plan; and if any remarks of mine, or the enclosed sketch of my ideas of a convenient set of farm-offices, can anywise assist him, when he comes to erect his own buildings, it will give me great pleasure.

I cannot entirely agree with your correspondent's reasons for not giving a table of references; for, though his plan distinctly points out the situation of the several conveniences, there still appears a want, in not being immediately made acquainted with their dimensions, without the trouble of applying the compasses to the scale; a frequent repetition of which must soon destroy it; and the plate, in order to suit the size of your Magazine, is obliged to be drawn by so small a scale, as to render it no easy task to be exact in taking the smaller divisions.

I cannot miss this opportunity of testifying my regret at many recent publications being rendered useless, by their plates having

neither a scale nor a table of references to resort to; and the purchasers of such works have great reason to complain of being deprived of the instruction they were taught to expect from the title-pages.

Your correspondent's thrashing-mill is, I think, misplaced, though I must acknowledge, that I do not perfectly comprehend the plan, as it differs so much from any one that I have chanced to see. All the large thrashing-mills I am acquainted with, have uniformly thrown the straw, after it was thrashed, to the opposite end from the chaff-house: if the horse-gang (or track) had been placed at the north-west end of the barn, instead of being thrust into a corner, the mill would more readily throw the straw into the straw-house, and the horses would perform their work with less detriment to themselves, by enjoying a freer air, which is essentially necessary for them while employed in this hard labour.

If my admeasurement of the stables is just, there is too little room for the number of horses proposed to be placed in them, there being only a space of 4½ feet allowed to each. I know this is the size allowed by many writers on husbandry; but, notwithstanding, I think that I am justified by experience in saying, that 5½ feet are scarcely sufficient, and that 6 feet are not more than necessary.

The evils accruing from these overstretched economical plans, cannot, I am convinced, be easily estimated, though they are too commonly overlooked; or, if the mischiefs occasioned by them happen to be noticed, they are generally attributed to some other cause, while the true one proceeds from their ill-judged parsimony. Horses that are hard wrought require sufficient room to repose themselves without molestation, so as they may recover from their fatigue, before they be again brought out to resume their daily labour.

I am too little acquainted with the Gloucestershire ox-stalls, to pretend to be an adequate judge of their merits or demerits; but I must confess that I entertain doubts of the propriety of adopting them in this country, as the reasoning of that eminent farmer and grazier Mr Peacy, in the Cotswoldhills, Gloucester, appears to me to be just. 'His method of stall-fatting,' says Mr Marshall, 'merits particular notice. His fatting cattle are all *tied up*; some in single, some in double stalls. His reason for his practice is not altogether that of saving room; he is clearly of opinion that they do better, and fat faster than bullocks which are kept in loose stalls. His reasoning is fair. Besides the indisputable advantage of their not being liable, in this case, to foul their meat and water: he holds out another which is not so obvious,

vious, but may nevertheless, perhaps, be equally true. Cattle which are tied up, are more *cadish* (tamer, less wild,) than those which are kept in loose stalls. A loose bullock (some loose bullocks at least), when a stranger enters the shed, or any disturbance happens in it, will rise and fly into the yard for refuge; while a bullock, which knows that he has not the power of flight, will lye still, and chew his cud. In the yards, loose bullocks are equally liable to disturbance; and quietness is no doubt essential to quick fatting.

'Each bullock has two troughs; a small one for corn; a large one for hay; with a water-trough, which runs the whole length of the shed, and is covered by a board; each bullock having a hole (large enough to admit the nose) to drink at. The water-trough (a hollow tree) forms, as it were, a top rail to the partition wall of the gang-way. The others are beneath it, nearly level with the bed of the stall.' (P. 76, vol. 2d, of Marshall's Rural Economy of Gloucestershire.)

I rejoice to perceive, that conveniences in farm-buildings are beginning to be attended to. Formerly, the tenants only required a certain quantity of barn-room, stables and byres, of small dimensions; and the landlord's sole attention was to get these buildings executed at as little expense as possible.

A false idea of economy pervaded the whole; and the loss, in the end, fell (as it ought to do) principally on the landlord.

It gives me great concern to find, from R. r. r.'s letter, that it is now become customary to place the farm-house at some distance from the yard.

The site of a farm-house ought, if possible, to command a view of the greatest part of the farm,—a pleasing, as well as the proper prospect for the farmer's principal room; at the same time, one of the windows should overlook the yard. Nothing tends more to keep servants to their duty, than the conviction of a probability of their master seeing what is going forward on every part of the farm, even at the time they know he is enjoying the company of his friends. Farmers ought to disdain the company of those who are annoyed by the sounds of a thrashing-mill, or disgusted at the appearance of a farm-yard.

In my plan, I have endeavoured to place the doors of as many of the offices as possible in view of the master's apartment.

The landlord should not be put to the expense of needless building; at the same time, the farmer ought to have what is sufficient to accommodate the number of cattle adapted to the size of the farm.

The enclosed sketch of a plan is made out for a farm of 300 acres, which admits of the turnip husbandry.

The quantity of buildings necessary for the size of the farm, and the placing of them properly, according to their sites, ought to be well considered before any plan is adopted.

There should be rather more stabling than what is barely sufficient for the number of horses or oxen absolutely requisite for the culture of the farm.

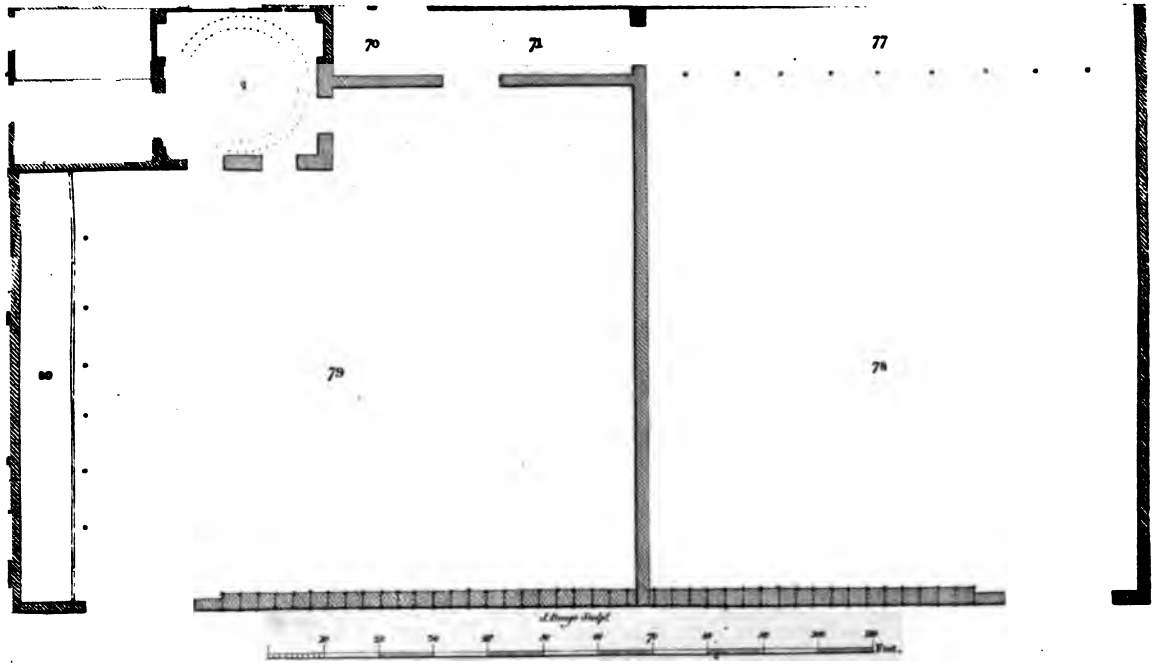
Every convenience ought to be given that can anywise expedite the business, and lessen the expense of the farmer: no illiberal economy should infringe on the plan. On the other hand, every useless expense, or superfluous ornament, (even for the farm-offices of an opulent landlord), ought to be studiously avoided.

I am inclined to think, that many gentlemen who have not been accustomed to consider, with all due attention, the quantity of buildings indispensably necessary for carrying on the farming business, are apt, on seeing a plan of a set of offices placed contiguous one to another, to form a hasty conclusion, that the expense must be enormous, and that the number and size of the buildings ought to be curtailed; when, perhaps, had these very gentlemen viewed the same buildings on separate pieces of paper, they would have unequivocally declared that they were absolutely necessary for the farm, and that not a single one could possibly be omitted.

The height of the barn, drawn on the plan of the one built at Lornshill, with the several divisions necessary for machinery, and the unthrashed grain, &c. &c. have probably made your correspondent A. G. (page 248. of your 3d vol.) hastily give it as his opinion, 'that this thrashing-mill barn is perhaps attended with rather too much expense for very general use.'

The plan was sent to your Magazine, in order to point out how easily great conveniences could be obtained by a proper construction of the barn; and I am convinced, that the expense of such a barn, as that at Lornshill, very little exceeds that of any of the thrashing-mills, where the machinery is placed on an upper floor (as it ought to be), but have not those advantages, for want of a little attention while the buildings are going forward. If I am not mistaken, prior to the general use of powerful thrashing-mills, two barns of forty feet by eighteen each, within walls, were deemed indispensable for a farm of 100 or 200 acres; [illegible] those parts of the country, where husbandry was best understood and practised, three of such barns were thought neces[illegible] the additional expense of Lornshill barn, is [illegible] walling, and the flooring proper for the con[illegible] good thrashing-mill; and surely farmers, who pay [illegible] have a right to expect every building absolutely neces[illegible] advantage the improved mode of husbandry.

Since



FARMER'S MAGAZINE No. XXXI.

Since the plan of the thrashing-barn at Lornshill was given your Magazine for August 1800, a stair (instead of a ladder) is been erected in the barn, which is found to be an improvement, as it renders the access to the upper floor much more easy, id enables the farmer to lock up his unthrashed grain.

I have given a sketch of additional fodder-yards with their eds, &c. &c. as it is very necessary to have separate yards for ttle of different ages and size. The sight of them will probay alarm the economical landlord; but I beg leave to remind our readers, that I have sent the plan, not as what ought to be actly followed, but have only endeavoured to point out such a sposition of farm-offices, as are most suitable for the practice the improved husbandry. Gentlemen will readily adopt such rts of them as appear to them adequate for their purposes, and ject such as seem to them superfluous.

I am aware that the size of the fodder yards will be apt to cony an idea of the enormous expense of them, but that would ot be so considerable as is generally imagined; for it is not ow, but utility, that is aimed at; and the sheds, &c. can be ected at a very trifling expense, when compared with the amazing lvantage they are of to the farmer; and almost every provident rmer will cheerfully set about erecting such himself as will last r the common length of leases, as may be seen by those ho have chanced to examine the foddering yard erected a few ars ago at Lornshill in Clackmannanshire; and I can assure em, that the expense comes within the reach of almost every rmer of the present day.

At some future period I propose sending you a plan for a stackrd, with such a kind of corn-stand as will give an incalculable lvantage to the farmer.

Wishing every success to your useful Magazine, I remain,
Sir, your most obedient Servant.

J. F. E.

References to a Plan of Offices for a Farm of 300 *Scotch acres, adapted for the Turnip Husbandry.*

N. B. 300 Scotch acres correspond nearly to 381 English.

No.		Feet by Feet.	
1.	A place to hold hay, or cut-grass, in the summer season - - - -	18	10
2.	A stable for four horses, with two recesses in the back-wall to hold cart and plough-harness, corn, chaff bin, &c. - - -	24	18

N. B. The recesses are 10 feet by 4 each, and they

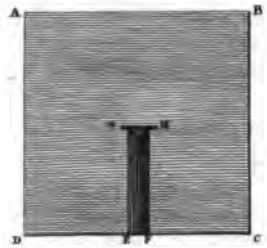
No.		*Feet by Feet.*	
	they may be closed in by sparred doors, so that each ploughman may keep his own things under lock and key. The stalls are 9 feet long by 6 feet wide.		
3.	Another four-stall stable, with recesses -	24	18
4.	A two-stall stable, with a recess, A. -	12	18
5.	Another place for hay or cut-grass -	10	18
6.	A three-stall stable, with two recesses - -	18	10
	These buildings are 14 feet high, so that there may be a hay chamber over them, B.		
7.	A foot-path behind the cows or oxen -	18	5
8.	A grip, or gutter, for holding their dung -	18	1½
	The depth of it, on the side next to the foot-path, not to be above 4 inches, and on the side next to the cattle, not above 1½ inches.		
9.	The stance for five cows or oxen, C. -	18	7
10.	The manger, &c. - - - - - -	18	2
11.	The feeding-path, with a door of communication to the turnip-shed - - - - -	18	8
	There are racks placed above the manger, for holding of straw or hay, as it is found to be very beneficial to cattle when feeding on turnips, &c. to be at liberty to eat fodder when they like.		
12. 13. 14.	The manger, and a stance for five cattle and the grass; the dimensions of each as before mentioned.		
15.	The foot-path between the two rows of cattle		
16. 17. 18.	The mangers, and a stance for five cattle and the grip; the dimensions of each as before mentioned.		
19.	A single food-shed, with a door of communication to the turnip-shed - - - -	18	6
20.	A place for boiling the horses meat, or steaming potatoes - - - - - -	18	18
21.	Cottage for unmarried men servants -	18	18
	Under this cottage and boiling-house, a tank, or water-cistern, should be placed, D.		
22.	A four-stall stable, with two recesses, as before	24	18
23.	A single food-shed - - - -	18	7
24. 25. 26.	The manger, stance for five cattle, &c. the grip or gutter, each as before.		
27. 28. 29. 30.	The double foot-path, the gutter, the		

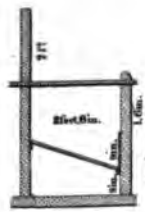
stance

No.		*Feet*	*by Feet.*
	stance for five cattle, and the other gutter, as before.		
31.	The double food-shed - - - - -	18	8
32. 33. 34.	The manger, stance for five cattle, and the grip or gutter as before.		
35.	A single foot-path behind the cattle -	18	5
36. 36. 36. 36.	Four calf pens, each of them -	9	6
37.	A shed, being a to-fall, or lean-to, for turnips, potatoes, &c. - - -	130	12
38.	Part of the above shed, for various articles for the three-stall stable - - -	18	12
39.	Dairy - - - - - -	17	8
40.	Dairy scullery - - - - -	17	8
	N. B. These buildings are only one storey high.		
41.	The yard for drying of the dairy utensils -	22	18
42.	The farmer's sitting-room that overlooks the farm and the farm-yard - -	21	14
43.	Another room (measures, including the bow)	17	16
44.	Entrance and stairs - - -	17	9
45.	Kitchen - - - - -	14	12
46.	A bed-closet - - - - -	14	8
	Bed-rooms in the upper storey.		
47.	Scullery, or back kitchen - -	14	8
48.	Larder - - - - - -	8	7
49.	Another larder - - - - -	8	7
	N. B. These buildings are only one storey high.		
50.	The house-court or green - -	50	18
51.	Open yard for coals, ashes, &c. - -	21	18
52.	Cart-way between the fodder-courts and house-yard - - - - -	93	18
53.	Cart-way between the byres, or cattle-stalls, and the fodder-yard - - - -	200	16
54.	The cistern which serves both yards -	15	8
55.	A foddering-yard, with sparred mangers round the fence, E		
56.	Cattle-shed, with a rack for straw in it -	28	12
57.	Two hogstyes and yards, each - -	12	5
58.	Another fodder-yard, with mangers, &c. as above	98	45
59.	A lean-to, or to-fall cattle-shed, with a rack in it	28	12
60.	Two hogstyes and yards, each - -	12	5
61.	A place for holding tools, spare gear, &c. -	20	12
62.	A chaff-house - - - -	20	16
63.	A small space for holding the refuse of the grain,		

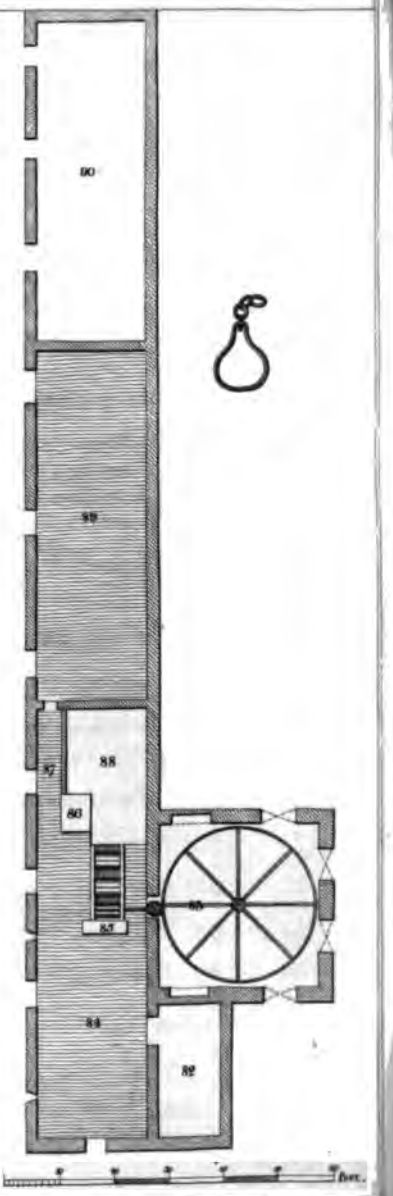
No.		Feet	by Feet.
	after being sifted, when it comes from the first fanners - - - -	4	3
64.	The place for the second pair (or cleaning fanners).	8	7
65.	The place for the machinery - -	10	11
66.	A place for the clean grain - -	10	8
	Above this there is a trap-door, through which the sacks are drawn up by means of a wheel and axle (commonly called an endless rope); and they are then placed on a miller's barrow, and wheeled directly into the granary; and when the grain is to be sent away, the sacks are again placed on a miller's barrow, and wheeled to the endless rope, when the rope that goes round the axle is thrown over a roller fixed between two rafters, placed directly over the door opposite to it, and the sack is tied to it, and let down into the carts with great expedition and little trouble; just below the door there is placed another roller, which projects a little way from the wall, in order to prevent the rope and sacks from rubbing on it,		
67.	The place for the straw as it falls from the shakers	11	8
68.	The straw-house (two stories high) -	20	16
69.	A stair up to the loft, where the thrashing machine stands - - - -	8	8
70.	A place for a straw-cutter - - -	13	12
71.	A place for straw - - -	30	12
	N. B. These two places are leans-to or to-falls.		
72.	Cart-shed, over it a granary - -	62	20
73.	A flue-kiln - - - -	12	12
74.	A place for coals - - -	20	13
75.	A place for horses standing in while they are shoeing - - - -	20	12
76.	A smith's shop - - - - -	20	18
77.	A lean-to, or to-fall shed, with a rack in it to hold straw for winterers - -	95	12
78.	A fodder-yard, with mangers round the fence, &c.	100	95
79.	Another fodder-yard, &c. - -	95	88
80.	A shed with a rack in it to hold straw for the cattle - - - -	83	12
	The horse-track for the thrashing-mill -	27½	27½
	This building is as high as the thrashing-barn, in order to give the horses plenty of air,		

which





Plan & Elevation of the Manger in the Yard.



References to the Second PLATE.

		Feet.		Feet.
NO. 82.	The upper storey for the Millstones, -	24	by	12
84.	The Bay of the Barn, for unthrashed Grain. N. B.—The width of the Barn permits two Stacks of different Grain being put in at the same time; the narrow path between them enables the Stower to place the Sheaves in proper order for delivering them to the Carriers to the Feeder.	36	by	20
85.	The Feeding Board, - - - - - - - - N. B.—Before which is placed the Drum and the two Sheakers.	8¼	by	3½
86.	The Trap-door, with Leathern Hinges, - - Over which is placed a Wheel and Axle, with an endless Rope, for taking up and letting down the Sacks of Corn.	7	by	5
87.	The Gangway, for wheeling the Sack from the Wheel and Axle to the Granary,	16	by	5
88.	The Upper Storey of the Straw-house, - -	20	by	16
89.	The Granary, - - - - - - - - - -	62	by	20
90.	The Upper Stories of the Places, NOs. 73, 74, 75, and 76, - - - - -	60	by	30
91.	A Bed-room, - - - - - - - - - -	14	by	14
92.	A small ditto, - - - - - - - - - -	14	by	7
93.	Staircase, - - - - - - - - - - -	16	by	8
94.	The Bow-window Room, - - - - -	16	by	16
95.	Bed-room, - - - - - - - - - - -	14	by	14
96.	A small ditto, - - - - - - - - - -	10	by	7

No.		*Feet by Feet.*	
	which they require when employed in this hard labour. The space is not altogether lost, as it affords an excellent place for depositing the wood for carts, ploughs, &c. to season in.		
82.	A place for a small pair of millstones, for bruising or grinding oats, &c. - - -	24	12
82.	In the second plate the upper story for the millstones - - - -	24	12
83.	The upper stories for the horse-track -	27½	27½

A Particular Description of some Articles in the References to the foregoing Plan.

A — DIVIDING the standing for ten horses into three stables, may perhaps appear to many people a needless expense; but, having once had the misfortune of an infectious disorder breaking out in a stable that held twenty horses, I was convinced of the impropriety of congregating such a number into one place. Mr James Clerk (farrier to his Majesty for Scotland) in his Treatise on Horses, published in 1787, points out many disadvantages attending it: besides, the collecting many servants in one stable, often occasions great neglect, and affords them the means of caballing together, which the divisions prevent; and, at the same time, by means of a pass-key, the master can superintend all the stables, with as great ease as if they were not divided.

The racks in farmers' stables commonly lean forwards, and the spars are made flat, and of fir, and only nailed to the top and bottom rails, so that they are quickly destroyed; whereas, the racks ought to be placed upright; and I think it is, at the long-run, more economical to have the spars or rundles made of well turned ash or beech, most of which should turn in deep sockets, which enables the horses to pull out the hay or straw with more ease. Many horses have a bad trick of pulling out their fodder, and letting it fall beneath their feet: in order to prevent this, some new forms of racks and mangers have been contrived. There is one mentioned in the communications to the Board of Agriculture by Mr Beatson (vol. I. p. 20.); but these I cannot recommend; for I have found that, instead of saving the hay, there was more of it wasted, than by the old form. There is, indeed, a new kind invented by a spirited American farmer, Mr William West of Philadelphia county, which seems likely to be more efficacious. (78th page of the 1st edition of the Complete Grazier, published by Crosby & Co. Paternoster Row, in 1805.)

The pavement in the stalls are often made too steep. Mr Beatson,

son, in his paper to the Board of Agriculture, gives it as his opinion, that 'horses ought to stand as nearly on a level as possible; nor can there be any reason whatever to the contrary, unless that of carrying off the moisture; which, I hope to show, may be much more effectually done by paving the stalls level, than in the common way: nothing can be worse for a horse's heels, than to make him stand always on a slope or declivity. It not only occasions grease, cracks, scratches, &c. but, by keeping the tendons and sinews of his pastern joints in a constant state of extension, causes a stiffness in those joints, which must prevent the free use of them.

'The method I would recommend is this:—Suppose A, B, C, D, (plate 2d) the ground-plan of a stall. A B, is the inner end, to which the horse is fastened. Let it be paved on a level from A to D, and B to C, leaving in the middle a small drain, E, F, G, H, extending to within about three feet of the inner end of the stall. This drain to be seven or eight inches wide at top, and to form an angle at bottom, as shown in the cross section, fig. 3. The bottom of the inner end, at G H, to be only about three inches deep, and to slope from thence outwards, as much as conveniently may be, to conduct the moisture at the main drain at D, shown in the longitudinal section, fig. 4. into which all the stall-drains empty themselves.

'These stall-drains to be covered with a piece of two-inch plank, having as many holes as possible bored through, and made so as to be easily raised up when necessary, to clean it, or wash it below.

'The main drain may be made at the end of the stall, as at D, or in any other convenient place, for conducting away the moisture into a reservoir. If at the end of the stall, it should not be nearer than two feet; otherwise the stale of mares might not at once get into it, unless the pavement without the stall were made to decline towards the drain, which need not be above six or seven inches wide at top, and should likewise be covered with planks full of holes.

'It must be observed, that the pavement or floor of the stall, instead of being perfectly level across, should decline about an inch, or an inch and a half from each side towards the stall-drain; a declivity which will not be perceivable, but will prevent any water spreading towards the sides, in case it does not fall immediately into the drain.

The advantages of this sort of stall are, that the horse always stands upon a level; and, consequently, will be less liable to disorders in his feet or heels; that, as horses generally stale about the middle of the stall, and as the bottom of the stall-drains may have

have a much greater descent than can be given to the floor of a stall, the urine will be carried off immediately without spreading to either side, as must be the case in the common method;—for which reason, horses may be kept dry with less litter if required.' Similar drains may be made in the ox-stalls, &c. which would keep them uncommonly dry.

It is imagined, that the additional quantity of urine that would be collected by these drains, would in a great part, if not totally, defray the extra expense of making them.

B — Mr Marshall, in his Rural Economy of Norfolk, takes notice of an excellent cheap hay-chamber, made, in that celebrated county, with clay and rods. (See minute 15. in the 22d page of the 2d vol.)

'It measured six yards by eight, or forty-eight square yards.

'It took three hundred splints (alder and willow rods, about the thickness of a man's wrist, down to that of his thumb), at 1s. 6d. - - - - - L. 0 4 6

Three loads of clay (casting and carriage about) -	0	4	6
A waggon-load of straw - - -	0	2	0
Five days of a bricklayer and labourer, at 2s. 6d. -	0	12	6
One ditto to plaster it when it was dry on the under side - - - - -	0	2	6
Total,	L. 1	6	0

Or 6¼d. a yard square.

'N. B. The price, by measurement, for labour alone, is 4¼d. a yard, which is a great deal too much.

'This floor was made in the following manner.

'The rods being trimmed (namely the twigs, and tops taken off), they were laid across the joists, as close to each other as possible. If crooked, they were "crippled;" had a chop in the crooked part with a hook or hatchet, so as to make them touch every joist, as well as each other;—no nails or other confinements.

'The clay being well soaked with water, the principal part of it was mixed with long wheat straw; which was well worked into it, by the means of a horse or man treading it, and by racking it about with a turnip-hook; the rest made mortar-wise, with a small quantity of short straw.

'The rods being bedded, and the clay prepared, the dauber laid a plank across the rods to prevent his misplacing them with his feet; and, standing on this, laid on a thick coat of the strawy clay, so as to cover the thickest of the splints about an inch thick, with a dung-fork, working it well between the crevices of the rods, and making it as level on the top as that rough tool would make

make it. This done, he went over it again with the mortar-clay (still standing on his plank), and gave it a thin finishing coat with a trowel. The thickness of the rods, and the two coats of clay, is about three inches; the thinner they are, the sooner they dry; and the lighter they are for the joists and timbers.

'Where, from the uncouthness of the rods, the clay is forced through between them, the dauber, with a hoe, cut it off level with the rods on the under side; and, for this purpose, drew his hoe over every part of it—a job quickly done.

'In the spring, when the floor is perfectly dry, it is intended to be plastered on the under side, to cover the rods, and give it a parlourable appearance. This will take about a day's work.

'A clay floor is preferable, in two respects, to a boarded one; it is cheaper and *tighter*. Boards, except they are well seasoned, and without they are ploughed and tongued, and laid down at a greater expense than can be bestowed on a farmer's hay-chamber, will let the dust and seeds through upon the horses and harness; whereas clay renders it as tight as lead.

'Mentioning my doubts to the workman as to its duration, observing that the rods, I was afraid, would soon rot, he answered, that did not signify, for, if the straw was well worked in the clay, the floor will remain firm though the rods be rotten.

'Mr John Baker of Southreps, whose opinion in this case is decisive, corroborates the idea of clay floors being preferable to boarded ones, and of their lasting a great number of years.'

These hay chambers over the stables afford great conveniences, and the floor itself is procured, according to Mr Marshall's account, at a very trifling expense. They would be equally convenient over the cattle houses; but the additional expense of six or seven feet of more walling will probably preclude them (now that building is so very high) from general use; otherwise they would greatly contribute to show off the fat cattle to advantage; for too great a height over the cattle makes them appear far below their real value.

C — The stakes to which the cattle are tied, are placed as near the sides of the stalls as will admit them to lye down with ease, and, at the same time, prevent them from interfering with each other's food. They are tied up by chains fastened to a single ring; but the ring ought not to be either a circle or perfect oval, otherwise they will not run easily up or down the stakes; the ring ought to be made something of the same shape with that given in the copperplate, with a swivel at the top. The part of the band that rests upon the neck ought to be made of strong leather, or broad web-girting, lined with soft leather, so as to permit it to be readily cut through, in case of any accident.

The

The length of the half ſtalls ſhould be about three feet from the outſide of the ſtakes.

D — Mr Marſhall, in his Rural Economy of Yorkſhire, page 142. of the firſt volume, deſcribes theſe ciſterns.

'In this diſtrict, water ciſterns are growing into generaluſe, eſpecially in upland ſituations. I have ſeen an inſtance where the dwelling-houſe alone, affords more than a ſufficiency of water for every uſe of the family; nor is it the conveniency of having a conſtant ſupply of water always at hand, which alone conſtitutes the utility of water ciſterns.

'Rain-water preſerved in quantity under ground is pure and palatable in a ſuperior degree; cool in ſummer, warm in winter.

'It is particularly grateful to cattle, eſpecially when they are ill; and it is highly probable that, as a menſtruum of aliment in general, it is the moſt wholeſome water.

'The ſituation of a water ciſtern is generally under the kitchen, or in a vacant corner of the yard near the kitchen door.'

The form of water ciſterns is various. The deeper they are ſunk, the better they keep the water. The cube is perhaps the moſt convenient figure; but a double cube would perhaps keep water better. A ciſtern nine feet cubical, contains 27 cubical yards, or about 60 wine hogſheads of water.

The *materials* of water ciſterns in this diſtrict are clay, bricks and tarras.

The *method of making* has lately received a conſiderable improvement. When the art was leſs known than it is at preſent, an irregular hole was dug; the determinate figure of the ciſtern being given by the walls, behind which the clay was *rammed*. Now, the intended form of the ciſtern, when finiſhed, is given to the excavation; whoſe ſides are ſquared and plumbed with the exactneſs with which a wall is carried up. On the wall-like face of the excavation, the clay is laid *plaſter-wiſe* with a trowel, coat over coat, two or three inches thick; and againſt this firm, even ſurface of plaſtering, the brick work is raiſed. The bottom is, or ought to be, in all caſes, bedded with three or four inches thick of ſtrong clay, beaten into a ſmooth, even, wax-like ſubſtance: on this flooring of clay, a double flooring of bricks laid; and on the margin of this the ſide walls are carried up half a brick thick. The bricks, I believe, are invariably laid in tarras.

E — The fodder yard is ſunk a foot below the cart-ways, fenced with poſts and rails, from $4\frac{1}{2}$ to 5 feet high above the cart-way. The poſts ſhould be from five to ſix inches ſquare, and placed in a rough wooden caſe, (which preſerves it better than if they were let into a ſtone one), which is ſunk at leaſt fifteen or eighteen inches below the ſurface; and the rails ſhould be three

inches

inches broad by two. Sparred mangers ought to be placed along the ſides of the fence, the top of them about ſix inches higher than the cart-way, and the bottom about a foot above the level of the yard, which gives them a proper ſlope, for containing turnips or potatoes, &c. in the winter ſeaſon, and cut graſs in the ſummer: they ſhould be about three feet ſquare, including the front poſts, of three or four inches thickneſs, and placed in the ſame kind of wooden caſe as the outward poſts are, with a rail nailed to the top of the front poſts, and well ſecured to the higher ones. The ſpace between the poſts being ſo ſmall, only one animal can feed at a time; which in a great meaſure protects the weaker from the ſtronger cattle, while eating their food.

The walls of the byres, or ox-ſtalls, need not be above ſeven feet high. The doors of all the buildings are made to open outwards, which gives great room in the inside of the barns and ſtables, &c. &c.

They are hung on pivots, according to the Roxburgh plan, having from four to ſix inches of the door behind the pivot; inſtead of making the pivot work in a ſtone, as in the common method, it is fixed in a ſtone, and ſtands upright; and there is a cap for it in the hinge, which makes it turn more eaſily; for no dirt or gravel can get into it, and, by impeding its motion, throw it off its centre.

These kind of hinges require leſs iron than the ordinary ones of a proper ſtrength for outſide doors; I apprehend that caſt iron would anſwer extremely well for theſe hinges, but the pivots ought to be made of malleable iron.

The improved tile-roof with ſtraw (or, what is ſtill better, reed), placed between the rafters or cupples, ſhould be adopted (*vide* the Agricultural View of Clackmannanſhire): indeed, whether the roof is covered with tile or with ſlate, it equally gives warmth in winter and coolneſs in ſummer. Upwards of twelve years experience has proved the efficacy of it.

There is a new farm-ſtead recently erected in an expoſed ſituation in the pariſh of Alloa, where this mode of placing ſtraw between the rafters was made uſe of, and the hurricane of the 25th of laſt December (1806) did not diſplace a ſingle tile.——J. F. E.

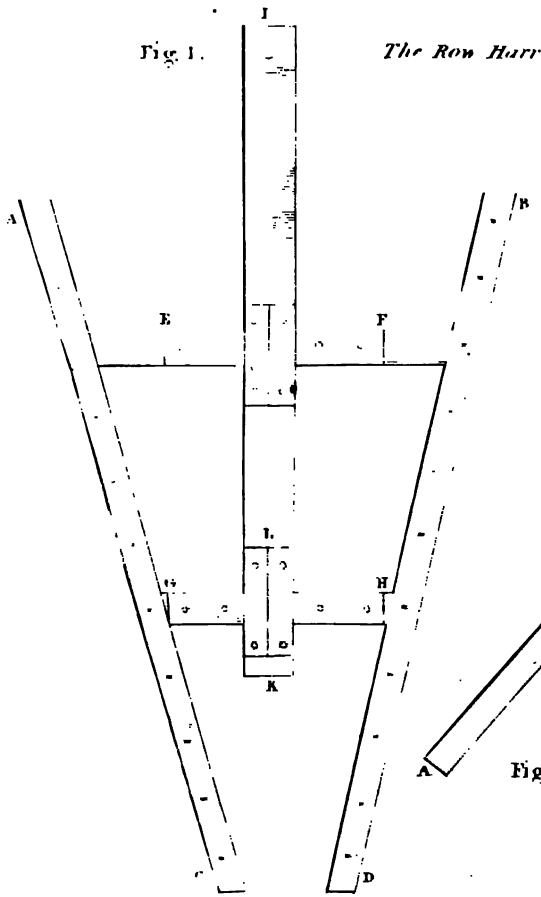
TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Cultivation of Potatoes, with Figures of the Implements uſed in cultivating them.

SIR,

I BEG leave to ſend you an account of my method of cultivating potatoes and turnips, with a deſcription of the implements I employ

Fig. 1. *The Row Harrow*



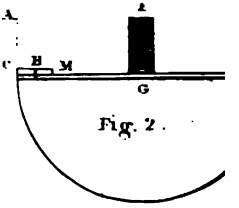
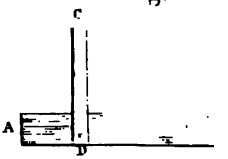


Fig. 2.

Fig. 3



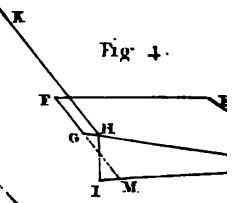


Fig. 4.

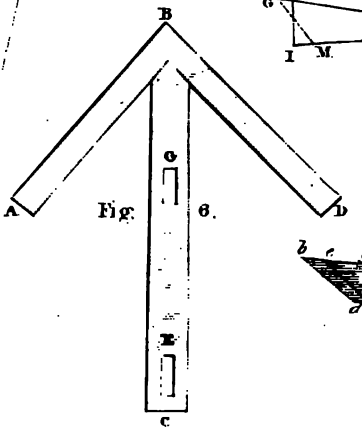
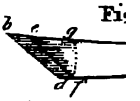


Fig. 6.



Fi

v. III page 414. *The Screw Muzzle or Plough Regulator*

The Cramp Fig. 1.

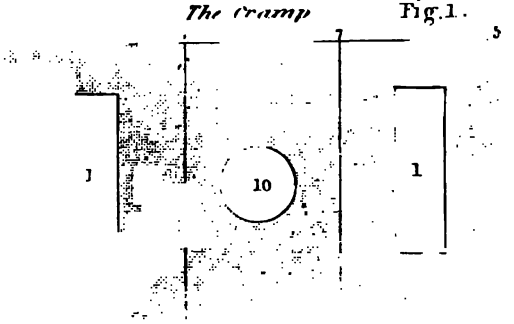


Fig. 2.

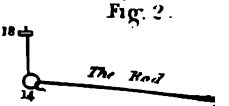


Fig. 3.

employ for that purpose; and remain, Sir, your obedient servant,
Kilcalmonell, 15th Jan. 1807. ALEX. CAMPBELL.

CULTIVATION TABLE FOR THE IMPROVED CULTURE OF POTATOES.

Potatoes planted.		*Thereafter to receive the first harrowing.*	
From the	*Inclusive to the*	*If early kinds.*	*If late kinds.*
17th March	21st March	In 26 days	In 30 days
22d March	26th March	In 25 days	In 29 days
27th March	31st March	In 24 days	In 28 days
1st April	4th April	In 23 days	In 27 days
5th April	9th April	In 22 days	In 26 days
10th April	14th April	In 21 days	In 25 days
15th April	19th April	In 20 days	In 24 days
20th April	24th April	In 19 days	In 23 days
25th April	29th April	In 18 days	In 22 days
30th April	4th May	In 17 days	In 21 days
5th May	9th May	In 16 days	In 20 days
10th May	14th May	In 15 days	In 19 days
15th May	19th May	In 14 days	In 18 days
20th May	24th May	In 13 days	In 17 days
25th May	29th May	In 12 days	In 16 days
30th May	3d June	In 11 days	In 15 days
4th June	8th June	In 10 days	In 14 days

Land that is very full of weeds, or apt to become hard by drought, if planted early in the season, may receive an extra harrowing and ploughing, so as to divide the time between the day of planting them and the time specified in the table for the first harrowing. The extra harrowing being so early in the season, must, on the very day in which it is given, be followed by the double mould-board, to defend against frost the potatoes nearly laid bare by the harrow.

Description of the Implements used in the improved Culture of Potatoes and Turnips.

The Row Harrow.

The two harrowing posts A C & B D, fig. 1., are each in length 5½ feet, and in thickness 2½ inches square. The middle or directing

directing poſt I K, is five feet long, five inches broad, and 2½ inches thick, with iron plating on the lower ſide to preſerve it from wearing. The connecting bars E F & G H are three inches broad, and two inches thick. They are of ſuch length as to place the remote teeth A & B forty-two inches, and the near teeth C & D twelve inches aſunder. They are tenoned into the harrowing poſts A C & B D, ſo as to be fluſh with their upper ſurface, by having a ſhoulder on the upper ſide of the tenons, and none on the lower ſide. Their other ends are cut ſquare, and applied to the ſides of the middle poſt, with which they are connected by means of four hinges of the ſame ſhape with door hinges; the one part of the hinges being fixed to the bars, and the other part to the middle poſt, by the ſcrew bolts 1, 2, 3, 4, &c. On account of the hinges being fixed on the upper ſide of the harrow, and the ſquare ends of the bars being in contact with the middle poſt, the harrow is not allowed to fold downward, which would endanger its being overſet when turning at the end of the rows. There are eleven teeth fixed in each of the harrowing poſts by ſcrew nuts. They are in length under the poſts two inches, and in thickneſs half an inch ſquare. They are ſix inches aſunder, and the end teeth are three inches from the ends of the poſts. The draught chain from the croſs tree to the harrow, is ſix feet long, to prevent the fore part of the harrow from riſing too much; and is fixed to a muzzle upon the middle poſt at I. The harrow drawn in the intervals, harrows the oppoſite ſides of two contiguous rows. This has the ſame effect as if it were drawn upon one of the rows, and folded round it; with this advantage in favour of the firſt method, that one horſe is ſufficient for pulling the harrow; whereas, by the laſt, it would require two to prevent it from ſhifting off the ridge. Beſides that, by drawing it in the intervals, it is not ſo apt to be interrupted by ſtones, clods, &c. By the poſts being placed ſloping from the line of draught, as in the figure, all the teeth in each poſt move in ſeparate equidiſtant tracks. The wide end of the harrow goes foremoſt, as that method, on trial, was found to be the beſt for making good work. One uſe of this implement is, to harrow the rows intended for turnips, carrots, and other ſmall ſeeds, immediately before they are ſown. This admits of ſowing them more accurately, and it makes a fine pulverized bed to depoſit them in. This bed is nearer to, and therefore more within, the influence of the dung previouſly laid in the rows, than the former tops of the ridges; which will accelerate their growth, ſo that they will be in leſs danger from drought and vermin. Another uſe of this harrow is to deſtroy the weeds in potatoe crops before the plants make their appearance; and with the help of other

er implements, to be afterwards deſcribed, to keep the land and open. It likewiſe removes a conſiderable portion of the h from the tops of the potatoe ridges, which expoſes the plants e to the influence of the ſun, and thereby encourages their etation, without altogether levelling them, which would turn the plants, or break off their ſhoots, and expoſe the crop to ry from rain, or the natural moiſture of the ſoil. The har- requires a boy (unleſs the driver is ſo expert as to do with- him) to guide it, and to aſſiſt in turning at the ends of the s, by means of a rope fixed to a ſtaple which is driven into middle poſt at L. By pulling this rope occaſionally, he can ngage the harrow from ſtones, clods, or roots of graſs; ch, if allowed to remain amongſt the harrow-teeth, would vent its making good work. In level land, the boy walks in furrow wherein the harrow is drawn; but if the rows are ſs a declivity, he will find it more convenient to go in the ow immediately above. The harrow is drawn in every r furrow, *i. e.* in the 1ſt, 3d, 5th, &c.; and when the field one over in this manner, it does the remaining ones, viz. 2d, 4th, 6th, &c. By this means, the ridge on each ſide f equal height; and better work is made than if one ridge ly harrowed were lower than the other not harrowed,—the ſequence of going over the field by paſſing along the fur- s in the order of contiguity. The harrow, by its conſtruc- , adapts itſelf to all the inequalities in the height of the es and width of the furrows; and by going frequently among n, reduces the ridges to any degree of flatneſs required; le, by having ſo much play, and being drawn in the furrow, icularly when the horſe goes at a quick pace, it is enabled to e out the ſtones and clods entangled therein, without dragging n along, which would make bad work. The weight of the dle or directing poſt keeps it ſteady in the furrow; and the tneſs of the harrowing poſts gives them more play, which nbles the earth more effectually, and prevents the harrow n being ſo eaſily choked. In all theſe reſpects, it ſeems to e the advantage over the double harrow fixed unalterably with- any play, at a particular degree of curvature, and which is vn over the tops of the ridges. In May 1801, having for the time ſeen in the Bath papers vol. 9. article 14. a deſcription harrow for common operations, invented by Mr Wynne, conſtructed on the ſame principle with my row harrow, and improvement on the common harrow, viz. ſloping the poſts n the line of draught, ſo as to make all the teeth go in ſepa- equidiſtant tracks, I think it neceſſary to obſerve, that my harrow, and my improvement on the common harrow, were

invented many years before the above period; so that, although Mr Wynne and I agree in the general principle, and nearly in the manner of applying it, yet we both have the merit of originality of invention, as the one could have no opportunity of copying from the other. I am just now contriving to make further improvements on the harrow for common operations. If successful, I may at some future period communicate to you the result of my endeavours.

The Hoop.

The hoop, fig. 2. is a bar of iron three feet eight inches long; two inches broad, and one fourth inch thick. It is bent in a semicircular form, so as to have its ends A and B two feet asunder. Before it is bent, the side intended for the fore edge is tapered thin from C to D, which, along the curved line C E D, is about three feet in length. The ends A and B are fixed with ridges in mortises made at the extremities of two posts, three feet long and three inches thick, the fore parts of which are fixed with hinges to the sides of a plough-beam; or the ends may be rounded and screwed, and fixed in the posts with screw-nuts. The posts expand like the wings of a double mould-board plough, and are fixed at any width required in the same manner. By this means they will receive hoops of different dimensions to suit the different width of rows; or the hoop may be attached to the beam in the following manner. Three inches of each end are folded inward in the direction of C M and D L, and rivetted by the pins H and K to a bar of iron C D, which is two feet long, three inches broad, and half an inch thick. Into this bar is rivetted at G a stalk F G, six inches long, two inches broad, one half inch thick, which is inserted into a mortise in the end of the beam three inches from its hind part, and retained there by wedges. Different sizes of hoops may be made in this way likewise, but each of them will require a separate cross-bar and stalk. To balance, however, this consideration, they do not require the side-posts, hinges, and stretchers, which are necessary in the other. The ends A and B of the hoop, in the one way of making it, and the stalk F G, in the other, are bended to allow the hoop to slope backward on the lower side. This makes its cutting edge point more to the bottom of the furrow, and, when raised up a little, it is more easily disengaged from the tough roots of weeds which have not been cut by it. The beam has plough handles fixed to it; and it has a wheel at the fore part seven inches in diameter. The wheel has a stalk two inches and a half broad, and half an inch thick, which rises fifteen inches above the wheel. This stalk passes through the beam, and through

through an iron band three inches broad driven upon it near its fore part. The beam is raised or lowered upon the stalk, and fixed at any height required by a bolt screwed into the iron band, and passing through the half of the beam to the stalk, against which it presses so as to prevent it from slipping through the beam. In turning at the ends of the land, the hoop, by lifting up the handles, is raised from the ground. The chief use of this implement is to pulverize the earth left in the intervals of horse-hoed crops by the paring-hoe plough, before it is returned to the plants by the double mould-board. It will likewise nearly fill up the deep furrows left by the double mould-board between turnip rows, where danger is apprehended to sheep from leaving them open.

The Strake.

The strake A B, fig. 3. is a well smoothed deal of hard ash, five feet long, six inches broad, and two inches thick. The wooden supporters, C D and E F, joined to it by screw-bolts, are inserted into mortises in the hind bar of a car frame, through which they can be raised or lowered at pleasure, and fixed at any place required by wedges. The car has plough handles, which enable the operator to press upon the strake when drawn by a horse going in the furrows of horse-hoed crops, so as to remove a few inches of earth at the same time from the tops of two contiguous rows. This is done to potatoes some time after they are planted; and to rows intended for turnips, before the seed is sown. It is called a strake, from the resemblance it has in its operation to the instrument called by that name in Scotland, which is drawn over the upper edge of the measures for grain, to remove the overplus grain from them, and thereby to reduce their contents to a flat surface. The strake must be raised from the ground, by lifting up the handles when coming round upon the head ridge. It was tried, fixed to the hind part of a plough-beam, having a small wheel at the fore part of the beam. But when used in this manner, it could not without difficulty be made to press equally on two contiguous ridges, if one was higher than the other, from the rows being across a declivity, or from any other cause. It had not this defect when fixed to the end of a car.

The Pulverizer.

The pulverizer, fig. 6. is a bar of iron three feet long, three inches broad, and half an inch thick. It is connected with a plough-beam and handles, by means of two iron sheaths, which are rivetted into the iron sole at E and G, and fixed in mortises

in the beam by bolts and wedges. By this method of fixing, it can easily be taken out of the beam to be repaired or sharpened. The sheaths are of such length as to make the beam, before and behind, of the same height with the beams of the common ploughs, and of such thickness as to make them sufficiently strong. The two feathers, A B and B D, are each twenty-two inches long, two inches broad, and half an inch thick. They are first welded at right angles to one another, so as to resemble a wright's square; and afterwards welded in the direction of the diagonal of the square to the point of the iron sole at B. Their outer edges are made thin and sharp, for cutting the earth and roots of weeds; and they are curved upwards towards D and A, until the outer corners are brought within twenty-four inches of each other. The skeleton of a double mould-board plough, without boards, with a narrow iron head, covered by an iron sole piece, and with a sock to which are attached the feathers in fig. 6. will make a more durable, though more expensive, pulverizer, than the one above described. This implement, in stiff soil, prepares the way for the double mould-board. In the intervals of horse-hoed crops, it scoops out, pulverizes, and scatters the mould; and, with the assistance of the paring plough, keeps it free, open, and clear from weeds, until the plants are ready for being earthed up.

Paring-Hoe Plough, &c.

I send you the following directions for making the paring plate for the paring-hoe plough, and the erect feather, which supplies the place of a coulter on the plough for common operations, in the expectation of bringing those implements into more general use. For the paring plate take a wooden pattern F M D E, fig. 4, being a thin deal, eight inches broad; E D forms an angle of 45 deg. with D I, the plane of the sole of the sock; F M has the same slope with the fore part of the sheath K H, but projects half an inch beyond it when D is at the point of the sock. Apply D M, the sole of the pattern, to D I, the sole of the sock; and with a piece of chalk draw the line D H on the upper side of the sock, and produce the line to G. This direction will do, whatever is the size of the sock. Then D G F E D will be the shape of the iron paring-plate. It is about half an inch in thickness, and cut in such a manner as to have a projecting part, A B C D, four inches long and one inch broad, to which the under side of the sock is welded at its point. The plate is then folded up, so as to have its under side D H G leaning upon the back of the sock on the landside, and both their landsides in the same plane. The edge F D is tapered like that of a coulter towards the landside,

side, except near the point D, which must be left thick till after that operation, for fear of burning it by the welding heat. The hind part F G is likewise made thin, that it may be in the same plane with the landside plating on the plough. The end F G projects half an inch beyond the fore part of the sheath, and is in close contact with it. This is better than attempting to cut the line F G, so as to reach to the fore edge of the sheath, which, if not done with the greatest accuracy, would either prevent the sock from being sufficiently driven upon the plough, or leave an opening between the plate and the sheath, into which earth and small roots of weeds would be constantly insinuating themselves. Besides the above perpendicular plate, the sock of the paring hoe plough has a horizontal feather, nine inches broad, for cutting the roots of weeds, and pulverizing the earth between the rows. Two of those socks, on two ploughs connected by cross-bars passing through both beams, and having only one handle to each beam, will remove the earth from both sides of the row at once, and answer that purpose better than the coultered ploughs which are made double in the above manner; as the latter, on account of the two coulters, are more apt to be impeded by any obstacles in their way. In this method two horses are necessary, to prevent the plough from cutting across the row. In level, well-prepared land, and in the hands of a very expert ploughman, (notwithstanding the awkwardness of his being obliged to walk stride-legged with a foot in each furrow) I have seen the double paring plough make very tolerable work. But, in other circumstances, it appears to me to be an imperfect implement, as it must always be held perpendicular to the surface, else one of the socks will be thrown out of the soil, and therefore cannot, like the single plough, be leaned upon to the right or left, in order to push stones and clods out of its way, instead of carrying them forward, to the evident danger of the young plants, or to counteract any tendency it may have to go out of its direction by the obstacles it meets with, or by any deviations of the horses from their proper course. Perhaps the superiority of the work performed by the single plough, and its paring the earth and weeds clear away from the plants, without any danger of creating blanks in them, with its requiring but one horse, will more than compensate the saving of time and labour, by using two ploughs joined together.

Fig. 5, *a b d c*, is the erect feather, which may be made to supply the place of the coulter on any plough for common operations. It is a bar of iron 14 inches long, 2¼ inches broad at the lower end, and tapered to one inch at the upper end. The side *a e* is formed into a cutting edge towards the landside as far as *g*, before it is joined to the sock, and from *g* to *e* afterwards, for the

reasons mentioned in the directions for making the paring plate. The angle *a b d* is an angle of 45 degrees; it is welded to the under side of the sock, so that the line *e f*, which is an inch from *b d*, will correspond with the landside of the sock. It is then folded up along the landside of the sock, so as to be perpendicular to the sole of the plough. When intended for ploughing tough sward, it is welded so as to have its point as far advanced as the point of the sock. When intended for ploughing in land abounding with loose stones, the plough will go the more steadily by having the point of the sock advanced three or four inches before the erect feather. The upper part of the erect feather can be made a much sharper and thinner wedge than the part of the coulter which corresponds to it in other ploughs; and therefore it must be fitter for cutting such roots as slide up along its edge. The erect feather, which supplies the place of the coulter, is supposed, by the editors of Encyclopædia Britannica [see the article *Plough*] to be weaker than the coulter itself, and more easily twisted from its proper place. This objection, however, those gentlemen, upon a comparative trial, would have found to be completely without foundation. The sock, in fact, renders the plough upon which it is used much stronger than coultered ploughs, as the erect feather will not yield in the smallest degree to a force which would either break the coulter, or bend it so as to require repair. The erect feather prevents the point of the sock from getting far under flags or large stones, which is a frequent cause of the breaking of other ploughs, or of bending their coulters. In this sock, as there is but one point exposed, it can more easily turn small stones to one side, and pass through them. Nor is it subject to another inconvenience attending coultered ploughs, which are frequently turned out of their course, or thrown out of the soil, by stones, roots, &c. getting between the sock and coulter. A plough with this feather on the sock, is not apt to be choked by stubble, rushes, clods, roots of grass, &c. nor when ploughing a surface covered with dung or other rough manure. The parts of those, which in other ploughs would stick in the angle formed by the coulter and beam, here rise along the erect feather of the sock, and fall over it on the landside of the plough in regular order, ready for being turned under the next furrow. Without seeing it actually at work, it is impossible to conceive the superiority it has in this respect over other ploughs. It will not choke once for an hundred times that they do; and when it does, it can be more easily cleared. The above property, before the invention of this sock, seemed to be a *desideratum* in plough-making, and cannot be given to the coultered plough, without raising the beam so high, and lengthening the sheath

sheath and coulter (which, in this case, must be made proportionally thicker) to such a degree, as will render the plough weak, heavy, or both, and thereby produce a remedy almost as bad as the disease; nor would the remedy, after all, be effectual, as it will not prevent choking between the coulter and sheath. This sock is lighter and cheaper, having much less iron in it, and easier made, than the sock and coulter, with the apparatus of wedges and plate for the coulter hole, which accompany the latter. It saves the trouble of carrying a hammer for altering wedges; and of carrying and constantly using an instrument for clearing away the stubble; as well as the time consumed in those operations. It is not equally liable with coultered ploughs, to be affected by the blunders of ignorant ploughmen, who frequently place the coulter improperly, so as to make bad work, and occasion more resistance to the draught. And it saves the expense and waste of time occasioned by the frequent breaking, bending and repairing of the coulter, as well as by the breaking of the beam, which, in coultered ploughs, is much more liable to such a disaster. It was I who suggested to the late Mr Small the idea of the cast-iron sheath used on his plough, and which is now so generally adopted. But a still greater improvement, as it adds equally to strength and durability, and more to smoothness, which are most important advantages in the construction of the plough, has been made by the Rev. Mr Cook, as mentioned, but not particularly enough described, in the 5th volume of the Bath Papers. I allude to the making the landside and mouldboard of cast-iron all in one piece, with a plug for fixing on the sock or share. One of those bodies, if it has the proper shape and dimensions, added to the sock and muzzle invented by me, and the necessary wood work, would probably make a more complete plough than has been hitherto known.

Culture of Potatoes.

The potatoe land is repeatedly ploughed and harrowed, until made sufficiently fine. Some land will be more so with two ploughings, than other land with four. The first ploughing is given in the beginning of winter; and the last immediately before planting the potatoes. After the last ploughing, the plough goes round every ridge, and turns a furrow from each side. This makes it easier for the cross-harrowing, which follows, to fill up the furrows, so as to make them level with the ridges; after which, straight parallel furrows, two feet and a half asunder, are opened up by a double mouldboard plough, pulled by one stout horse, going twice in the same track; the first time down hill, if the land is sloping. Or the plough may go first up hill,

giving it little depth by the muzzle, so as merely to line out the direction of the furrow, which is opened to its full depth when returning down hill. The dung-carts are then introduced; the horse going in one furrow, and the cart-wheels in the furrow on each side. The driver walks behind the cart; and, with a crooked, three-pronged fork, draws the dung out of the cart, and leaves, in small heaps, in the row the horse goes in, a sufficiency for it and the row on each side. The heaps are divided by women and children among the rows; and spread in them as equally as possible. The spreaders allow the carts to keep so far before them, that the whole allowance of dung for three rows is placed in one of them, before any part of it is spread. This prevents the feet of the horses and the cart-wheels from displacing it, after it is spread, and the potatoes can be laid more straight and regular upon it. The termination of the ridges is marked out before ploughing, by drawing a slight furrow with the plough on each side the field; and the termination of the rows is marked in the same manner, both before and after opening up the furrows to receive the dung. This last marking prevents the dung and potatoes from being placed too far out at the ends of the rows, upon the thin earth carried forward by the plough to the grass headridge; which frequently happens, unless care is taken to prevent it. Upon the dung, the sets consisting of middle-sized whole potatoes, or top-ends of large ones, are laid twelve inches asunder. The small ones are rejected, lest any of them should be the produce of curled plants, which are apt to propagate the disease. The potatoes and dung are covered up, by splitting the ridges between the rows with the double mouldboard going twice in the same track, the first time down hill, if the land has a declivity, and returning with little, if any, load upon the plough, chiefly with a view to correct any inaccuracies in the first opening up of the ridge, by which it was converted into a furrow. Or the plough may be first drawn upon the ridge against the declivity with a shallow furrow, so as to give the horse firmer footing than he would otherwise have on the top of the ridge in returning down hill, when he is obliged to exert more strength in opening the furrow to its full depth; in order completely to cover the potatoes on each side. Opening the furrow to its full depth against the declivity, would be too great an exertion for a single horse; and two horses, if employed together, could not be prevented from trampling upon and displacing the dung and potatoes laid in the furrows, even if yoked in a line, whilst more trouble in driving, and a broader headridge would become necessary. Although there should be no declivity, going twice in each track conduces to neatness and goodness of work. Any inaccuracies in the first journey, are corrected in the

the second, and the soil acquires an additional degree of pulverization by the more frequent rubbing of the mouldboards against the sides of the ridges.

Instead of once harrowing the potatoes, a little before the plants are expected to make their appearance above the surface, according to the present practice of others (except those who have within these few years in some degree followed my method, and found it to be attended with the greatest success), it occurred to me that a partial fallowing might be given to a potatoe field, after the seed was in the ground, according to the following plan, previous to the operation of horse-hoeing the plants. The first harrowing is given at the times pointed out by the accompanying cultivation-table, the row-harrow being drawn in the intervals between the ridges once or twice, according to the stiffness or foulness of the soil, or the quantity of earth that has been thrown over the potatoes; care being taken, however, not to go so often as to take up any of the sets. The cultivation-table is calculated so as to give the first harrowing at the time generally taken by potatoes, to have from half an inch to an inch of growth from them under the surface, in a moorish soil, and high situation, in the climate of Kintyre. But every farmer ought to make a cultivation-table for himself, as the vegetation of the crop will be later or earlier according to the climate, the kind of potatoe, the nature of the soil, the quantity and quality of the manure, the depth at which the seed is deposited, &c. The strake is employed in aid of the harrowing specified in the cultivation-table, to remove stones, clods, &c. from the tops of the ridges, and to flatten them so much, by removing part of the earth, as to allow the heat of the sun to have more influence in bringing forward the crop. It likewise ensures the potatoes coming up in the middle of the ridge, directly over the place they were planted in; for they will grow out at the sides, unless there is a smaller portion of earth between them and the air on the top of the ridge. The potatoes are narrowly looked at during the time of harrowing and straking; and any taken up are carefully replaced.

When the ridges are in the above manner sufficiently flattened and pulverized, they are allowed to remain in that state until a few of the potatoes are beginning to peep through the surface, when the pulverizer is employed to scoop out and crumble the earth in the intervals, which is immediately thrown over the ridges by the double mouldboard. In doing this, the boards are extended so as to have their low heels, which are eight inches from the plane of the sole, twenty-seven inches asunder; by which means the earth will be effectually thrown over the potatoes, and, at the same time, well pulverized. After an interval of a few days, to

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give time for smothering the weeds buried by the plough, the ridges are again flattened and smoothed by the harrow and strake, without going so deep as to injure the young potatoe shoots. The design of delaying this last ploughing, and the subsequent harrowing and straking, until some of the shoots are perceived above the surface is, that the soil may have less time to become foul with weeds, or hard with drought, before the season of removing the earth from the plants by the paring-hoe plough; and that the plants may have fresh, well pulverized earth, free from weeds, to nourish them from the first period of their coming above ground. By these means, the earth removed from the tops of the ridges by the harrow and strake, and that to be afterwards removed from their sides by the plough, will be in better condition against the time of earthing up the plants, to answer the purposes of that operation.

By this improvement in the culture of potatoes, successive crops of weeds are destroyed, before they have time to make a network of the soil; the earth is left free and open for the fibres of the potatoes to extend themselves in search of food; the horsehoeing of the crop, and the taking up of the roots are rendered easier; a great addition is made to the produce; and the land is left in better order for subsequent crops. This method is of great importance where the land in which potatoes are planted is coarse and stubborn, or infested with weeds; or where there is a deficiency in the quantity or quality of the manure applied to the crop. It is peculiarly proper where potatoes are planted early in the season; as from the slowness of the growth of those which are early planted, the soil has more time to harden and become foul with weeds, before the young plants make their appearance. But even where none of those circumstances occur, the method here described will make ample returns for the expense attending it. Nor is the expense, after all, very considerable; as in ploughing, and harrowing between the ridges, a man and a boy with one horse (or an expert driver without a boy), going twice in each furrow, will easily do an English statute acre in four hours; with the pulverizer, once in each furrow, an acre in two hours; and with the strake (which covers two ridges at once), an acre in one hour.

In May and June 1803, when all the potatoes in my neighbourhood were overrun with weeds, and the greatest labour bestowed on hand-weeding them, my potatoe land, managed in the above manner, was so clean, that there was not the smallest occasion for hand-weeding, except in a few rows, which, by way of experiment, were managed according to the best mode of culture made use of by others.

When

When the plants are two or three inches long, the earth and weeds are removed from them by the paring-hoe plough. This implement is described by Mr Robertson of Granton, in the 10th No. of the Farmer's Magazine, and is nearly the same with the Argyllshire plough invented by me, and for which I was honoured with a premium by the Highland Society of Scotland: with this difference, that, instead of a narrow feather attached to the left side of the sock, to supply the place of a coulter, it has a broad plate of iron to answer that purpose; which, at the same time, prevents the earth from falling upon the young plants, and burying them in the row. It differs, likewise, in having a moveable mouldboard, by which the body of the plough can be made so narrow, as to leave the earth removed from the plants exactly in the middle of the intervals. In other respects, it is of the same size and construction with the plough for common operations. If made much lighter or shorter, it would be too easily thrown out of its direction by any impediment it met with; and the removing the earth and weeds from the plants requires so little force, that the plough may, without any inconvenience, be made of such weight and dimensions, as will give steadiness to its motion. An old plough, when judged to be too frail for common ploughing, may be converted into a paring-hoe plough, by fixing a plate of iron to the landside of its sock, (according to the directions given in the description of implements), and by setting its mouldboard closer to the beam, or by fixing a moveable board to it. This plough can go very near the plants, without breaking down the narrow ridge upon which they are left standing. By taking the earth close away from the plants, it destroys the weeds more completely, and leaves less occasion for hand-work, in taking away the weeds between the plants with the hand or hand-hoe. The earth, when returned, will be more pulverized and cleaner, where it is of most importance that it should be so,—in the place to be occupied by the growing roots. The plants will not sustain any damage from drought, if the plough does not go too deep. The stiff earth, if left in contact with the plants, cannot be penetrated by the dews and slight showers, before they are dried up by the sun. The crumbled earth gathered in the intervals, will, by its own weight, by winds, &c. be always falling into the furrow made by the paring-hoe plough. This crumbled earth will retain, for the nourishment of the plants, the moisture which falls, and retain it the longer of being placed in narrow furrows contiguous to the roots of the plants, which, in some measure, shelter it from the rays of the sun. But to remove every apprehension as to danger from drought, the

hoop

hoop and pulverizer can return part of the earth to the sides of the ridges, whenever the weeds are rotted, so as to prevent their growing; which will happen in about eight days after they are buried in the intervals. This is much sooner than the plough could be employed with safety to raise the earth towards the plants, as neither of the first mentioned implements will endanger the plants in the smallest degree.

In general, the hoop repeatedly drawn along the furrows, preceded the first time by the pulverizer, which prepares the way, and makes a track for the wheel attached, (which would not move so steadily on the top of the small ridge in the intervals), will keep the earth removed from the plants free from weeds, and in a complete state of pulverization, until it is returned to them by the double mouldboard. But in land full of clods, or infested with small tough roots of weeds, which are apt to clog the cutting edge of the hoop, its place will be effectually supplied by the pulverizer, (which works without choking), and by the paring-hoe plough. The pulverizer crumbles and scatters the earth, and fills up the track made by the plough, without burying the plants; and the plough gives it another crumbling in removing it again to the middle of the intervals. Here it is not allowed to rest, (unless it is sufficiently fine and clean), but is tossed and broken, and the weeds destroyed, by repeating the above operations, until the crop is ready for being earthed up.

When the shortest of the plants are about six inches long, the double mouldboard, twice drawn in each row, is employed to raise the earth well up to their stems, and to smother any small weeds that may be growing amongst them. This is done during the cool mornings and evenings, while the leaves and small branches are erect with the cold, which will prevent them from being covered by the earth when raising it to the stems. Before the plants meet over the intervals, so as to render it improper to bring a horse amongst them, they receive another pulverizing and earthing up, if the appearance of weeds, or the stiffness of the soil, point out the propriety of repeating those operations. Any weeds that show themselves after this time, (and they cannot be many, if the foregoing method is followed), are pulled up by the hand. The roots are dug out of the rows by a three pronged fork. One person working with this instrument in well cultivated rows, will, in good soil, give employment enough to two gatherers. The saving of time in taking up the roots by the plough and harrow, is more than balanced by the loss sustained in the great number unavoidably left in the soil.

In stony land, after planting the potatoes, and after each subsequent

sequent harrowing and ploughing, a cart goes among the rows, in order to cart off the land the stones previously gathered into every fourth row. They are likewise gathered off after the crops, preparative and subsequent to potatoes, are harvested. All stones above three or four inches in diameter, are an interruption to ploughing and harrowing, as well as to the cultivation and taking up of the crop. Stones are particularly troublesome, in ploughing up land that has any considerable degree of cohesion, arising either from the nature of the soil, or from its being long in grass; as, in such land, they are continually stopping the plough, or turning it out of its direction, besides creating a great deal of additional labour to the cattle, and to the ploughman.

Potatoes ought to be planted as early as can be done, without danger from frost. The following advantages attend early planted potatoes. 1*st*, They are more mealy; consequently, more nutritious, and better tasted. 2*dly*, There is a greater chance of a dry season to take them up in. If housed wet, they must be dried by spreading and turning them, or they will not keep. 3*dly*, There is less risk of their being lost by moisture or frost, after they are ripe. Any of them in the least degree spoiled from those causes, must be carefully separated from the rest, as they would infect and destroy a great number of those contiguous to them. 4*thly*, The land can be ploughed immediately after the potatoes are removed, which will keep it dry through winter, and cover up the dung dug out of the rows; at the same time that it will expose the seeds and roots of grass, &c. near the surface, to be destroyed by the frost. Oats are sown in spring upon this furrow; as giving it another ploughing after the frost is over, or delaying to plough it till then, would bring up fresh weeds to injure the crop, and bury the surface which was meliorated by exposure to the influence of the elements.

In wet land, the potatoes, instead of being planted upon the dung, are pushed by the hand into the top of the row previously formed by the double mouldboard, and the holes filled up by the hand-hoe. When planted in this manner, they do not admit of being harrowed; therefore, at the time pointed out by the cultivation-table for the first harrowing, the rows are flattened by the roller; and when the potatoes begin to come through the surface, earth is thrown over them by the double mouldboard preceded by the pulverizer. The rows are again rolled a few days thereafter, and remain in that state until they are ready for the paring-hoe plough. The rest of the process of management is the same as for the dry land. By this method, the potatoes, though not so productive, are better tasted, and in less danger of perishing from moisture. It is more profitable, however, than planting in

lazy

lazy beds; a method which ought never to be resorted to, except in corners inaccessible to the plough, or in bringing stubborn new land into culture. C.

NOTE.

The remainder of this Essay, viz. On the Culture of Turnips, shall be presented in our next Number. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Feeding Cows with Hay and Oat-ſtraw.

SIR,

HAVING often heard it remarked, that hay afforded nouriſhment ſuperior to ſtraw of any kind, when uſed as food for black cattle or for horſes, I deviſed the following experiment for aſcertaining this fact, on which I would beg leave to aſk your opinion how far it goes in deciding the matter at iſſue, or what more correct experiments might be tried with that view.

On 4th January 1795, I began to give a milch cow as much newly thraſhed oat-ſtraw of the preceding crop as ſhe choſe to eat, with half a peck of potatoes each day, and meaſured the quantity of milk that was drawn from her, with regularity. This was continued till the 11th of January, when ſhe began to receive, in lieu of the oat-ſtraw, for the ſucceeding week, as much good hay, compoſed moſtly of rye-graſs and red clover, unthraſhed, and of the then laſt year's crop, as ſhe could eat, beſides the ſame meaſure of potatoes as formerly.

On comparing the quantity of milk afforded from theſe different ſorts of food, I found them exactly the ſame.

I beg leave to remark, that there are too many facts that mankind take for granted, without the ſmalleſt inquiry. Have not our fathers believed in witches and demons, without the leaſt inquiry; and proceeded the length of burning one another for imaginary crimes, founded on that abſurd belief? Is it not ſtill credited by the ignorant, that toads and lizards are venomous reptiles? Was it not a favourite ſubject of belief among many in former days, that the Philoſopher's Stone could tranſmute all metals into gold; as certainly as many bigotted Indians believe the doctrine of Metempſychoſis, or as your correſpondent a '*Barley Farmer*,' believes that tar is a panacea for his ſheep. But as we have lived to ſee the diſperſion of many clouds of prejudice and error, we may yet hope to witneſs the diſperſion of many more. NOVICE JUNIOR.

At a Meeting of the SMITHFIELD CLUB, held at Freemasons' Tavern, December 16. 1806, Lord William Russell in the Chair, in the absence of His Grace the Duke of Bedford, President;

IT was resolved, That the Premiums and Conditions for the ensuing Christmas Show, on Friday, Saturday, and Monday, the 11th, 12th, and 14th of December 1807, be as follows, viz.

CLASS I. *For Oxen or Steers of the Herefordshire Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

*** See the general Conditions following Class VI.

CLASS II. *For Oxen or Steers of the Long-Horned Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

CLASS III. *For Oxen or Steers of the Short-Horned Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

CLASS IV. *For Oxen or Steers of the Sussex or Kent Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

CLASS V. *For Oxen or Steers of the Devonshire Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

CLASS VI.—*For Oxen or Steers of any Mixed Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

* Also an additional *Ten Guineas* to the Owner of the Ox or Steer which the Judges shall esteem the best exhibited, in the above six Classes.

☞ As general Conditions of all the above six Classes, it is required, that the Beasts sent in claim of the above Premiums, have been worked at least two years, ending the 11th of October 1806; that they have not been put to fatten previous to that day; that no Cake or Corn be given previous to the 1st of September 1807; that the whole of the food consumed, from the 1st of October to the 30th of November 1807, be certified: It is also required, that the Breed of each Beast be named; that the time of putting to feed, and the state of the flesh at the time, be certified, under the attestation of two respectable witnesses of the facts.

CLASS VII. *For Oxen or Steers of any description, under the weight of* 120 *stone.*

To the Owner of the best Ox or Steer—*Ten Guineas.*

☞ Beasts sent in claim of the Premium in this Class, are not expected to have worked, but must be fed without Cake or Corn;

Corn; and the time of putting to feed, and the state of the flesh at the time, must be certified.

CLASS VIII. *For Cows, which have borne three Calves at the least.*

To the Owner of the best fat Cow—*Ten Guineas.*

☞ Cows sent in claim of the Premium in this Class, must have calved in the year 1806 or 1807; the time of their last calving, and the time when dried, to be certified; they must not have been put to fatten previous to the 1st of January 1807; the time of putting to feed, and the state of the flesh at the time, to be certified.

CLASS IX. *For One-year old long-woolled Wether Sheep.*

To the Owner of the best Pen of fat Wethers—*Ten Guineas.*

*** See the general Conditions following Class XII.

CLASS X. *For Two-year old long-woolled Wether Sheep.*

To the Owner of the best Pen of fat Wethers—*Ten Guineas.*

CLASS XI. *For One-year old short-woolled Wether Sheep.*

To the Owner of the best Pen of fat Weathers—*Ten Guineas.*

CLASS XII. *For Two-year old short-woolled Wether Sheep.*

To the Owner of the best Pen of fat Wethers—*Ten Guineas.*

☞ As general Conditions of the four last Classes; the Pens of Sheep sent in claim of the above Premiums, must each contain Three Wethers of one Man's Breed; and they must have eaten no Cake or Corn: these facts to be certified.

CLASS XIII. *For Pigs under Two-years old.*

To the Owner of the best fat Pig—*Ten Guineas.*

*** See the general Conditions at the end of the next Class.

CLASS XIV. *For Pigs under One-year old.*

To the Owner of the best fat Pig—*Ten Guineas.*

☞ As general Conditions of the two last Classes, the Pigs sent in claim of the above Premiums, must have their exact ages certified, and the sort of food consumed by them, in the Three Months preceding the show: both of these Premiums not to be gained by one Pig.

Resolved, That every Beast, Sheep, and Pig, intended as a Candidate for the Premiums, be sent into the Show-yard *before Nine o'Clock on the Morning of Thursday the 10th of December* 1807; and that the Judges of the Show be allowed the whole of that day, without the admission of strangers, till the adjudication is settled, in order that due attention may be paid to the Certifi-

Resolved, That the following be the Instructions to the Judges of the Show of 1807:—

"You are desired to decide, which is the best Beast and Sheep in each Class; having regard, in forming your judgement, to quality of Flesh, lightness of Offals, and time of Feeding; also,

to

to the early maturity in Sheep and Pigs; and likewise in Cattle, if not worked. To require, that the Certificates be answerable to the requisitions of this Advertisement. The Owner's Certificate of Feeding to be Evidence, if not contradicted by counter-evidence; in which event, to determine on the case from the circumstances of it; but without reference in the Adjudication: your decisions, as to the Breeds and live weights of the Animals, to be final; and that no Premium be adjudged, in any case, where there shall not appear to be sufficient merit to deserve it.

Resolved, That no Cattle, Sheep, or Pigs, be admitted as Candidates for the Premiums, the Owners of which do not consent that the Club shall have a particular return made, of the dead weights of Offals and Quarters, immediately on the Animal's being slaughtered and weighed: and the *Secretary* is authorised to retain the Order on the *Treasurer*, Mr GIBLETT, for payment of any Premium, until such particulars are furnished to Mr JOHN FAREY (*Landsurveyor and Agent*), No. 12, Upper Crown Street, Westminster, in order to their being by him laid before the public.

Resolved, That no Cattle, Sheep, or Pigs, be received into the Show-yard, without Certificates delivered with them, (not mixing the particulars of Animals *in different Classes* in the same paper), sealed up, and directed to the Judges for the year: and that no more than two Beasts or Pigs, or one Pen of Sheep, in any one Class, belonging to the same person, be allowed to enter the Show-yard.

Resolved, That ROBERT BYNG Esq. and Mr HENRY KING Jun. be appointed *Stewards* for the ensuing Show and annual Dinner. (These Gentlemen being present, obligingly accepted the appointment.)

Resolved, That Bills be printed of the Premiums, and sent, as in former years, to all the Members of the Club.

WILLIAM RUSSELL.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Husbandry of France; with some Observations on the former condition of its Cultivators.

Somnus agrestium lenis virorum,
Non fastidit humilem domum,
Non Zephyris agitata Tempe.

SIR,

THE perusal of your valuable pages has sometimes turned my thoughts upon those days of my early youth and more advanced

years, paſſed in different parts of France, and the neighbouring nations, and has led to a compariſon between the advantages and diſadvantages belonging to thoſe countries *alio calentes ſole*, and our own. From theſe reflections I have been led to think that the good and bad things of life are pretty fairly divided among the inhabitants of Europe; and that the gifts which nature is prodigal in beſtowing upon one corner, are generally not more than ſufficient to counterbalance ſome privation to which other ſeemingly leſs favoured diſtricts are not condemned. When I firſt went abroad, I carried with me the uſual prejudices of the youth of our iſland. I thought I was leaving the ſite of perfection, to viſit a land of famine, and a people of ſlaves; and ſo difficult is it to emerge from the fetters of early imbibed error, that for a long time I found myſelf ſtrongly oppoſing the convictions of reaſon, by the dregs of preconception. This is the uſual way with mankind, whoſe ſelf-love generally tries to make the truth yield to their opinions, and who at laſt pay a reluctant ſubmiſſion to it when oppoſition becomes vain. Whatever happineſs has been the reſult of, or was expected from, the Revolution of France, I can ſay that I beheld her happy before that event, and very miſerable after it. I do not aſſert this by way of inſinuating that the happineſs enjoyed by her natives has for ever fled, and is not compatible with the change of government. Time will no doubt mitigate the horrors, and allay the paſſions which that event produced; and during the exiſtence of which, happineſs could ſcarcely be expected. This is a diſcuſſion, however, foreign to your publication.

In the province of Languedoc, where I firſt reſided, the peaſants ſeemed to realize, by their happineſs, the fables of the golden age; and, in a ſmall country town, I enjoyed the ſociety of forty families, whoſe morals would have honoured, and whoſe manners would have graced, the beſt circles of a capital; for in France it is at once ſeen that eaſe and politeneſs are not the excluſive attendants of the rich and the titled; they are generally to be met with in the family of the farmer and of the citizen. In this ſequeſtered ſpot, which was under the protection of the excellent and amiable Biſhop of Rhodery, the happineſs of the farmer's life firſt impreſſed itſelf upon my mind, which was often irreſiſtibly filled with thoſe tenderneſſes which they alone enjoy,

'Whom the ſudden tear
Surpriſes often when they look around,
And nothing ſtrikes their eye but ſights of bliſs,
All various nature preſſing to the heart.'

It will be no eaſy matter to give an idea of the plenty and great happineſs of living in this delightful climate; I ſhall, however, looſely

looſely ſtate a few facts. At the *Grand Soleil* in Toulouſe, the price of dinner at the *table d'hote*, (including a bottle of excellent wine) did not exceed two ſhillings: for this ſum you had two ſuperb courſes and a deſert of fruit and preſerves in the beſt ſtyle; the common wine of the country, ſold at a halfpenny the bottle. At the other inns you was juſt as well ſerved, at a lower rate, but perhaps with leſs *eclat*.

It muſt be allowed that the ſouth of France is not famous for the goodneſs of its beef or dairy productions; but the plenty, the earlineſs, and the flavour of its fruits and kitchen vegetables, amply make up for this; and there is no country where the appetite of the *bon-vivant* can be ſo fully and eaſily gratified. I have heard much of the French feeding upon frogs; and no doubt this idea, ſo revolting to our ſtomachs, muſt have contributed to the notion, that ſcarcity of proviſions prevailed in France. I never ſaw frogs ſerved at table; but when at Toulouſe I was informed they were ſold in the fiſh-market for one penny each: they are caught by going at night to the ponds with a candle, the light of which attracts them, ſo that they are eaſily tied by the hind legs and thrown into a baſket. The difficulty of getting fiſh equal to the demands which the frequent meagre days occaſion, made the French, who like to live well, fall upon many plans of doing ſo, and at the ſame time according to regulations. When at Rouen I once ſaw a larded cat for ſale in a poulterer's ſhop; the man ſeemed to look on it with conſiderable admiration, as it had been regularly fatted, and aſked more for it than for a large hare, which was likewiſe for ſale; from this it will be ſeen how arbitrary a thing taſte is, and that no juſt concluſion can be drawn from even a multitude of facts which depend upon the capricious nature of man. At Lyons, living was as cheap as at Toulouſe; 200l. per annum was a ſum equal to procure the luxuries of life in profuſion, and an excellent ſociety; the poſſeſſion of a faithful *chere amie* coſt no more than 25 louis-d'ors a year. The embroidreſſes formed a corps from which the moſt difficult to pleaſe might be ſatisfied. I have ſailed ſeveral hundred miles on each of the rivers Rhone, Garronne, and Rhine; the expenſe did not, on each, exceed a half-crown; and the beauties of theſe noble ſtreams ſurpaſs deſcription. The Spaniards ſay that he who has not ſeen Seville, has ſeen nothing: I think the ſame may, with greater truth, be ſaid of Bourdeaux, which is really what it has ſo often been called, the paradiſe of the earth; *hic ſuper omnes angulus ridet*: Never ſhall I forget the grandeur of the approach to it, when deſcending by water into the ſuperb creſcent which it forms along the banks of the Garronne. The wine called claret is the growth of the vineyards which encircle the city; theſe

vines grow in a black rich mould to a great height, and when tranſplanted acroſs the river, they immediately degenerate; indeed, nowhere but in the cloſe vicinity of Bourdeaux do they produce the fame wine, but change their nature when removed to the common ſtandard of country vintages. It is a curious circumſtance of the vine, that where it can barely come to perfection, on account of the cold of the climate, the wines are preferable to thoſe of climates more congenial to its growth. The Burgundy, Champaign, and Rheniſh, are our moſt eſteemed wines; and they are produced from ſtinted looking plants, which ſeem to ſhrink before the northern blaſt. Bourdeaux lies ſomewhat further to the ſouth. The Florence, Lunel, Madeira, and Malaga, are the produce of hotter climates, and no doubt owe their celebrity to the nature of the ſoil, or to particular expoſures. The rent of vineyards is more various than that of any other grounds. When at Lauſanne, I lived with the proprietor of a vineyard; it conſiſted of five acres, and lay above the road to Vevay. The perſon who culitvated it and made the wine, lived upon it; and the maſter and he equally divided 120 louis-d'ors per annum, which the produce ſold for. The trouble of rearing, manuring, and all the other labours attending a vineyard, is very great; but the proceſs of making the wine is ſimple and eaſy. After the juice is preſſed out, it is put into hogſheads; and, the time of fermentation being attended to, the trouble is at an end. In four or five weeks it is fit to drink; but it improves by keeping. By far the greateſt part of France has the advantage of bringing the vine to perfection. In moſt parts, particularly in Aunis and Saintonge, brandy is made of the refuſe of the grapes: in Normandy, cyder ſupplies the place of the grape juice; and there, brandy is, like wine, made in vaſt quantities from the apple. I never taſted good cyder in Rouen, though I reſided there a winter; and the brandy made of apples is a nauſeous liquor. Except in the north of France, winter begins to retire in February very viſibly, and in March and April, nature appears in her gayeſt attire. The ſpring is indeed the moſt delightful ſeaſon; for the heats of ſummer are oppreſſive, and produce a variety of inſects, very troubleſome even to the natives. I never taſted tolerable malt liquor on the Continent, although the natives are far from being indifferent about it, even where they have wine remarkably cheap.

In two articles we have a decided ſuperiority to moſt parts of the Continent, I mean in fuel and fiſh. The exiſtence of coal is very common in France; but, except in Flanders, I do not remember to have ſeen it uſed. A good fire of wood would coſt at Paris a louis per day to keep up. At Lauſanne it ſells for two louis-d'ors per chord, a meaſure of about two cubical yards.

At

At Rouen I cannot well specify the price; for, when I came to that town, a pair of shoes cost only 10 livres in paper, and, when I left it, 1000 would not purchase a pair. As to fish, I have in no part observed that plenty which is to be found in Scotland. The fish of the lake of Geneva is very delicious, but the price beyond the pockets of any but the rich, so that, except at feasts, it is seldom to be seen. I have heard of trouts being sent at the expense of 100 louis-d'ors to Paris, and even at a higher rate. I never saw any good fish in the south of France, and I am sure that it is scarce in most parts of that division. At Rouen we had tolerable plenty of sea-fish, such as herring and mackerel, and the finest carp I ever saw, remarkably cheap. This is a fish well worth the farmer's attention, as, I believe, one acre under water will yield annually 400 from 4 to 6 pounds in weight.

In every part of the Continent, where I have been, fish was reckoned a delicacy, and, as such, eagerly sought. In this country it is held quite the reverse. As to oysters, they are reckoned the most delicious of food, and procured at incalculable pains every where.

Butchers' meat and wheat are excellent and cheap over the whole north of France, Normandy being famous for its pastures, and Picardy and Flanders for their luxurious productions in grain. Here you may travel through lands under wheat crops which cover the hills and vallies without interruption for many miles. In the months of May and June, these and other crops, such as the rape, have already attained the height of five or six feet, such vigour of vegetation being hardly to be met with in any other part of Europe. When I first went to France, the inhabitants of the country seemed every where to live in plenty. The quantity of silver plate, even among the lowest order of farmers, was astonishing; and one might easily acquiesce in the Emperor Charles the V.'s remark to his courtiers, who, when that monarch passed through France, tried to raise Spain to a comparison with it, 'That the only difference was, that in France every thing abounded; in Spain nothing.' When I visited that country a few years after the Revolution, silver plate had disappeared, and I hardly think I saw a dozen crown pieces during a long stay there at that time. Before the Revolution, the state of the coinage, and plenty of gold and silver, surpassed that even of England. During my several residences in Flanders, France, and Switzerland, I have uniformly found the farming part of the population religious, honest, kind, and enlightened, much beyond my expectation; and I was far from having occasion to remark, that they were ill used, or borne down by oppression. Their houses and mode of living were comfortable and healthy. In France the

kitchen is the place of most consequence in every house in town or country; the preparation of dinner and supper makes every other concern sink in importance; every part of that duty is fulfilled with the greatest skill, and the most solicitous attention; such a thing as hurry in eating or cooking a dinner would revolt the feelings of a Frenchman. An Englishman cooks quickly, and eats in the same way. In Italy the kitchen is so little used that its place is in the garret; and in Holland the brightness and precision of the kitchen, shows that it is not meant for much use; the Germans are fond of good eating, but they are bad cooks.

I have made these loose remarks with greater confidence, because my residence abroad was partly confined to the habitations of the cultivators of the soil, who are totally different from those parts of the population of a country generally visited by travellers, and happily exempted from the grandeur, the vices, and the miseries of the cities. I found these peasants full of sentiments of honour, and even of military glory; and still with pleasure remember the animation of our old servant Limer, when he recounted how he had had the good fortune to hold the horse of Louis XV. at the siege of Fribourg; and of the carpenter who worked for us, when he took out of his drawer a grape shot he had received at Fontenoy when serving in the dragoons.

The joy of the vintage season in France exceeds all comparison with our harvests; here every one is welcome to partake, and baskets of grapes offered to the passenger with the most engaging solicitation. I shall not at present lengthen my letter; but, before concluding, it may again be remarked, that happiness is, perhaps, pretty equally distributed throughout Europe; and that though the excellence, or reverse of excellence, of institutions, in a great degree controul the fate of mankind, yet they cannot entirely give happiness to a depraved people should they be good, nor withhold it from a virtuous people in the event of their being defective. These short and confined hints may partly contribute to give to some readers an idea of the farming class on the Continent, juster than they may have been taught to form.

'How much of all that human hearts endure,
That part which laws or kings can cause or cure;
Still to ourselves in every place resign'd,
Our own felicity we cause or find.
With secret course, which no loud storms annoy,
Glides the smooth current of domestic joy;
The lifted axe, the agonizing wheel,
Luke's iron crown, and Damien's bed of steel,

To men remote from power but seldom known,
Leave reason, faith, and conscience all our own.'

I am, Sir, your constant reader,

14th April 1807. SEVERUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on the Husbandry of Dumfries and Ayrshires.

SIR,

ALTHOUGH no great farmer myself, I am the son of an excellent one, and have always retained a strong predilection for that profession,—that nursing mother of all others in all parts of the world. It happens, of course, when travelling on horseback especially, which is frequently the case, that I look keenly around me, with what little of a farmer's eye I have, and tease every landlord, or other person that falls in my way, with questions relative to the management of the soil. During last harvest, being detained some wet days at Dumfries, there fortunately fell in my way some volumes of your Magazine, which pleased me as much as a miser would be on finding a hoard of gold in the earth. Leaving Dumfries, and travelling up the Nith, a beautiful and romantic ride, I found farming going on in pretty decent style; but the strath, or dale, soon becomes so narrow, that little land is left for the plough. Fine hills, however, for the black-faced sheep, surround you; and few of any other sort, except one flock of Cheviots, are to be seen. Near Sanquhar, the country opens a little; and here aration goes on with as much exertion as can well be expected, every thing considered. A proper rotation they seem to know little of; but want of enclosing, and no encouragement to improve, puts that and every other commendable operation out of their power. One may know when they pass through an entailed estate, without inquiry, at the first look,—so baneful are its effects on agriculture; and the method of letting this estate is almost incredible. A written and sealed offer is given in, not to be opened till an appointed day (at least the offerers are so told); but jealousies are spread, and fears created, somehow or other, during the intermediate time, that the offer is not the highest one; and, by this means, an offerer is induced to renew his offer with an additional sum, and very often bids above himself! As this bidding is all in grassum, there is no danger of loss to the proprietor from want of capital in the offerer, since the money must be paid before the tack is granted, and nothing more is cared for. He may be an honest man or a knave, a fool or a wise

man; a good farmer or a blockhead; it is all the same. This plan I should have thought to be a Turkish bantling, but was told that it was the blessed babe of an Edinburgh writer, and carefully nursed up now to the years of majority, at least, on this estate.

After quitting Dumfries-shire, the hills again approach each other, but expand on entering Ayrshire, where there is abundance of excellent lime; and, as the land here is not all entailed, some symptoms of better farming appear. To the southward, on high ground near the hills, there seemed to be good looking fields of turnip, corns, and fresh looking grass. Nearer the road, attempts were making to improve a very poor soil with lime; and the hedges, considering the great height of the country, not bad. Here, it seems, is the summit betwixt the two counties, for a small loch, near the road, emits a rivulet from both ends, so that its water runs both to Ayr and Dumfries. The dairy is a main object in this part of the country; and one farmer values the produce of his cows at 8l. and upwards a head *per annum*. Towards Cumnock the soil does not mend; and here, again, is a noble lime-work, which has done much, and, with skill, capital and exertion, which seem in some degree at least wanting, would do much more. But this is an entailed estate again. No regular rotation, no red clover, and few turnip. Near Ochiltree there are some well dressed fields, enclosed with a double fence of both a stone dyke and hedge, which must have been expensive, and one of them unnecessary. From this village, towards Ayr, things look worse; and, about half way, there is the cold, cold clay, very late crops, and very poor ones. No clover, no turnips, but oats after oats, and then a precious mixture of rye-grass, goose-grass, and windlestraws. Still nearer Ayr, matters mend a little, although not so as to please a good farmer;—not a farmyard to be seen;—but it seems to me that the soil here is not naturally so good as that nearer the hills. By this time your sensible correspondent Agricola came to my recollection, and it seemed to me that his animadversions on the minutiæ of farming might be of much use. What he has wrote is only a general view, as at present, with a retrospect to former times; and a barbarous picture it exhibits. Woeful must have been the state of agriculture when such terms in a lease, and such a rotation, were thought improvements, as mentioned by Agricola; and the old saying, of the blind leading the blind, was never more completely verified. My ardent wish, that Agricola, or some other person properly qualified, would instruct and stimulate this noble and extensive county, in which there are all sorts of soils, is a principal motive for offering this to your notice. The spirit of patriotism sinks, and pines with regret, at seeing not the half of either corn

of

or flesh produced that might be. Do those people never read your Magazine? It would be of more use to them than all the books in the world, unless it be one old-fashioned book for which I have all due respect. It is to be feared that the rust of former barbarism still adheres, where it is truly deplorable to find it now-a-days. One gentleman-farmer expressed himself thus: 'No no, none of your books; they only lead people to mischief; I take care of that.' Another tells, with much satisfaction, 'how nicely he had contrived the situation of a byre he had built, so that all the filth from it should run directly over a precipice to a burn, and keep clean doors.' And a third, by way of adding taste and ornament to profit, made the road to the nearest lime-work, as far as within his own land, through a muir, serpentine, giving by this means some good ups and downs to his carts.

There are doubtless many farmers in Ayrshire of a very different description; and those, induced by the genuine spirit of patriotism, ought by every possible means to enforce their example on their more ignorant neighbours. What would Great Britain be, even but fifty years hence, were every county in it to produce only a third, a fifth, or sixth more from the soil than at present, respectively, according to their capability of improvement? She would rival France in her millions of men, the only thing in which we are not already superior; which would be a surer guard to the constitution and *terra firma* of Great Britain than all the fleets that ever ploughed the ocean. Ploughing the land is the proper business of man, for his indispensable support and comfort. It is the only foundation for a strong and durable nation. Ploughing the water will only supply his fictitious wants, which inevitably lead to desolation. The saying, of a short life and a merry, may be truly applied to a commercial nation. That your Magazine may spread widely, and be read attentively, is the sincere wish of PATRIOTICUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Agriculture of Ayrshire.

SIR,

IN a former paper, some time ago, I sent you a brief historical-account of the *progress* of agricultural improvement in this county; with some hints for its further improvement, in so far as depended on proprietors and the public. In the conclusion of that paper, I unguardedly made a kind of promise to extend the dissertation to the *actual* state of agriculture of the county, not aware

aware of the difficulty of the undertaking, nor of the responsibility that was risked. I hold myself pledged, in consequence of that promise, at least to attempt to fulfil the engagement; and if I fail in the execution, I can only plead the apology of the Latin poet, " magnis tamen excidit ausis, " and express my hopes, that it may be the means of exciting some person of superior abilities to take up the subject.

No person of candour and discernment will ascribe this manner of speaking to affectation. A small degree of attention will convince such, that the difficulty arises from the nature of the subject under discussion. It is an easy matter to give a distinct view of a district or county that is in what may be called a fixed, permanent state; where either no improvements have taken place at all, or where they have attained to something like uniform systematic regularity: but where agriculture is in a mixed state, or, in other words, in a state of progressive improvement, the case is very different. Here not only a greater variety aud multiplicity of objects are presented to distract the attention, but even these are varying from time to time. Old plans are laid aside, and others more promising are adopted. Some people are so stubborn as to adhere to their old customs against the evidence of their own senses; and there may be others, however well-disposed to try experiments, that either want the ability to do it, or, perhaps, may be fettered by some old restrictions to which they had consented. So that not only in districts and parishes, but on neighbouring estates, and even farms, the state and management may be exceedingly different. And such is actually the state, in a great measure, of the shire of Ayr, at this time. Though great improvements have been made, and are daily making, and though old prejudices are fast wearing out, yet much remains to be done; and it can scarce be said with truth, that there is any thing like an uniform plan or system prevailing, or like that which is to be seen in the different counties of Britain, where agriculture is farther advanced.

The magnitude, also, of the undertaking, may be conceived by attending to the extent and value of this county. It stretches, in a kind of semicircle or crescent, along the shore of the frith of Clyde, from the march of Galloway, within a mile of the Cairn at Lochryan, to within twelve miles of Greenock; a distance of more than seventy miles in length, the average breadth being nearly fifteen. Any person taking the trouble to multiply these, will find, that the superficial contents will fall little short of five hundred thousand acres. And, considering the great proportion of arable to moor and pasture land, this surface is, perhaps, not overrated at 150,000l. a-year. If to this is added,

ed, the value of woods, mills, coal, lime, and other minerals, the whole aggregate annual value of the county may not fall greatly below 200,000l. Accuracy in these calculations is not pretended; nor is it easy to be obtained. The conjecture is formed upon the proportion of arable to pasture and moor land. There are forty-seven parishes in the county; of these there are only six that can be properly called moor parishes, and, even in them, there is fully more arable land than is sufficient for raising grain for the consumpt of the inhabitants. The remaining forty-one parishes consist *generally* of rich and deep land, containing a considerable proportion of clay.

In consequence of superior modes of management being introduced, joined with the great rise of farm produce, the value of property has increased in a remarkable degree to what it was only a few years ago. It is said, that the arable land of the district of Cuningham averages 2l. 10s. per acre; and the best parts of Carrick and Kyle, two guineas. Considering these rates, and the vast extent of arable land, the above annual aggregate sum would appear to be below the mark.

There are few counties in Britain that have the means of improvement more completely in their power, owing to the great quantities of coal, lime, and freestone, in every corner, and the near neighbourhood of almost every part to the sea. Besides, the number of towns and large villages within the county, and the still larger ones in the conterminous county, afford the readiest access for the disposal of every species of agricultural produce. Yet, with all these advantages, it is subjected by nature to one disadvantage, which nothing can remove or compensate. Its exposure to the blasts and ravages of the western ocean, occasions a degree of rain and moisture unknown to the eastern side of the island. Whatever the inclinations or the abilities of its agriculturists may be, this exposure presents an obstacle to the perfection of agricultural mananagement, that is attainable, and has been attained in other districts, where the soil is not, by any means, naturally of equal quality. Here, neither perfect fallowing can be obtained, so essentially requisite to a clay soil; nor can a regular and proper rotation of crops be carried on, where the ground is drenched with rain near one half of the year. It is, no doubt, owing to this circumstance that oats have been, and probably will continue to be, the great staple crop of Ayrshire, and has prevented a due proportion of wheat, barley, and leguminous crops from being cultivated. Notwithstanding this disadvantage, it must be acknowledged, that agricultural improvements have made, and are daily making, a most rapid progress in this county, within these ten or fifteen years past. That which, thirty years ago,

ago, was looked upon as the *ne plus ultra* of farm culture, "the three white crops successive after liming, and six succeeding years in hay and pasture," is gradually wearing out; and the new, and more improved husbandry, in so far as circumstances will permit, is gaining ground.

And here, we cannot help saying, that a just tribute of praise is due to the liberality and patriotism of the respectable proprietors, for setting an example of a more improved husbandry to their tenants, by cultivating a part of their own esates. Many respectable names might be mentioned; but where all are animated with the same spirit, and are engaged in the same vocation, it might be looked upon as invidious to single out individuals. The truth is, that good farming is become the mode, or fashion. In the French style, *it is the order of the day;* and a gentleman would now be looked upon as a *ninny*, who could not, in some degree, join in conversation upon agricultural subjects. And, considering the proneness of the lower ranks of society to follow the example of their superiors, especially when it evidently tends to their own advantage, it would be surprising indeed, if some of the *actual* farmers should not catch the same spirit, and try to imitate the example given them by their landlords.

The husbandry of Ayrshire may be classed under the four following divisions, viz. 1. Tillage. 2. The dairy. 3. Grazing and fattening for the butcher. 4. Breeding and rearing black cattle and sheep. Though there is a mixture of all these various branches carrying on throughout the whole extent of the county, yet the two first are the *chief* employment of Kyle and Cuningham; and the two latter are the *chief* employment of Carrick, and of the moor parishes that are not in that district.

The crops raised in the county are chiefly oats, with, now, a considerable proportion of wheat, bear and barley, and some few peas and beans. In former times it was supposed that the county was not suitable for wheat, owing to the excessive rain and moisture; and it was accordingly, for a long time laid aside, but is now raised in such quantities as to become an article in settling the fiars. Barley has hitherto been so little cultivated, that it has not yet come under the cognizance of the fiars. The fiars of beans and peas have been struck for the first time this year. Bear or big, it would seem, suits the climate of Ayrshire better than barley, which requires more heat and sunshine to bring it to perfection than is requisite for bear. Since the Court of Teinds, in their decrees of augmentation of the stipends of the clergy, are now in use to convert the bear (or big) formerly given to ministers, into barley, and have made that to be payable by the fiars of the county, it would be a desirable thing for all parties concerned,

ed, if the price of barley was ascertained in settling the fiars, as well as other grain. The objection that has been stated to the cultivation of beans, as a general and regular routine crop, is not only the frequent and severe storms from the sea, but also the frequent late and early frosts that prevail through this county.

It is comparatively but of late that turnips have been cultivated to any extent; and even yet, they cannot, by any means, be said to be generally cultivated; nor is there any thing like a regular system of alternate white and green crops any where, except amongst a few of a better description, and more enlarged ideas, than the general run of tenants through this county. Potatoes are universally cultivated in considerable quantities, and by the drill method; and many people through this county prefer those to turnip, not from their superior quality, it is presumed, in feeding cattle, but they think the crop after potatoes is preferable to one after turnip. Whether there is any thing real in this, or only a pretence to apologize for ignorance and want of skill in management, or an excuse to countenance prejudice against a new invention, it may be difficult, without more experience, to determine. If, upon further trial, it shall be found to be the case, one cause of the deficiency may be the moisture of the climate, and allowing the turnip to remain upon the ground, and to be carted off the field in winter, as they are used. In this way, every track of the cart-wheel becomes a reservoir for containing the water, and by that means the ground becomes too much drenched, or soured, and its prolific quality may be injured. If this be all, the remedy is obvious.—Let them be taken up and housed, or otherwise secured, before the winter-rains set in. Upon a very slight consideration, one would be apt to suspect, that the failure of the succeeding crop must be owing either to a defect in the management of the ground for the turnip-crop, or in the climate, since the turnip-husbandry is found to succeed so completly elsewhere. And it is much to be wished, that a few unsuccessful trials may not discourage agriculturists from cultivating this species of produce, upon which good husbandry so essentially depends.

Without a very minute and extensive investigation, it would be difficult, if not impossible, to ascertain the average produce *per* acre of the different species of grain raised within the county. It has been said, that the average of Carrick is four bolls (quarters) *per* acre. Kyle and Cuningham being, in general, of better quality, and lying lower and more level, it is naturally to be supposed that the produce must be greater. The writer of this article has heard of eighteen bolls (72 bushels) of wheat raised upon an acre; twelve Ayrshire bolls (quarters) of oats; and

from

n as the *ne plus ultra* of
successive after liming, an
from eight to ten of bear re," is gradually wearing
ed spots in a good season n usbandry, in so far as c
by any means, be stated as t
If we reckon five Ayrshire bolls that a just tribute
eight bolls, or thirty-two bushels of the respectable p
duce of the whole county, we are not, d husbandry to
the truth. It is not probable that it is
than this, one would be apt to think, would not defray
the expense of management, with public charges, and leave any thing worth while of profit to the tenant.

The old barbarous practice of 'crofting and out-field,' is nearly, if not altogether, abolished: but it cannot be denied, that what was called, in one of your late numbers, *bear-seed ideas*, in too many instances, keep their hold. Good and perfect agriculture is not the work of a day. It resembles somewhat the progress of nature herself through all her works; rising from small beginnings, and going on progressively to maturity. It is our business to watch, and endeavour to nourish the process; but if we attempt, by violent means, to accelerate, we are in danger of rendering it abortive. In the present case, let the same liberal-minded and enlightened few, who have set the example, continue their example and encouragement, and give time to the old generation, whose prejudices may be supposed most inveterate, to pass off the stage; when a new generation will arise, with minds more pliable, and animated, with all the spirit and vigour of youth. Besides this patient and persevering industry and attention, without which nothing can succeed, there are certain other essentials requisite to bring the county to that state of perfection which, it is hoped, it will one day attain. It has been already mentioned, as a thing generally known, that a great proportion of the ground is of a clay nature; some of it, in the Kyle district, even approaching to till. All who know any thing of good management are sensible that land of this description cannot be kept in a productive state, without a strict and steady adherence to naked or summer fallowing. And though the climate might not entirely admit of the complete rotation practised, upon such land, in the carse of Gowrie, and other places, as detailed in one of your former Numbers, yet the nearest to it that could be made, I would imagine to be the most adapted to the greatest part of Ayrshire, especially where clay was the prevailing subject to work upon. For example, 1. Naked fallow. 2. Wheat. 3. Any green crop most suitable—beans drilled, if possible. 4. Bear or barley sown down with a full crop of red clover. 5. Red clover. 6. Oats. Soil and situation may require a different treatment, and it is the province of the judicious farmer to apply it; but in general, it may nearly be

laid down as an axiom, that, if regular fallowing, and a rota-
n of white and green crops is practised, they cannot go far
ong. And it is long experience, only, that will show what the
t rotation is that ought to be followed.

t has also been frequently mentioned, that the climate is wet.
this case, common sense imperiously dictates that too much
ntion cannot be bestowed upon both surface and under-ground
ining. Without this no good aration can be practised, nor can
d crops be expected. And there is every reason to appre-
d, that there is not so much attention paid to this essential
uisite as ought to be.

n the next particular which I am about to mention, as condu-
e to the perfection of Ayrshire husbandry, I am in danger of
ng branded with want of feeling and humanity. But I cannot
p it. I must say what I think; and I declare, from the very
tom of my heart, when I do so, that I think I am most ef-
tually consulting the good of mankind upon the whole. Much
troversy for a while took place, in your Magazine, about large
small farms. I think the cause is now fairly given up, and
preference yielded to large farms. I, for my part, am ready
cknowledge, from all that I have either read or seen, that
ge farms are most conducive, not only to the greatest benefit
society, but, in a particular manner, to the most perfect sys-
n of agriculture. In large farms, it is always to be presumed,
t the greatest skill, and the greatest capital, are employed; and
ere these are united, it is to be expected that the greatest
duce will be raised. But, should this system of large farms
erally prevail, what will become of our population? Shall
small tenants be set adrift, or driven to begging? It is very
blematical, if one large farm does not require as many hands
nanage it as two or three small ones; and it is done to much
ter purpose. But, though it should not require just so many,
we have need of sailors, of mechanics, of manufacturers, and
men, to carry on what is called piece work. These various
nches of productive labour can never be overlooked. There
ufficient employment for thousands of hands more than we
e to spare. Any one that is possessed of the same way of
nking, and taking a general, or bird's-eye view of the shire,
uld be ready to conclude, that there is not a sufficient number
large farms, nor of that description of people who have a
e and genius for farming upon a large scale. Small farms,
men of confined genius and capital, more generally prevail.
d it is known from the experience of all ages and countries,
men of this description are not celebrated for enterprize.
y have not talents to invent, and their narrow circumstances
prohibit

prohibit them from risking an experiment, the failure of which might involve them in ruin.

It is difficult, and not necessary, in a dissertation of this kind, to prescribe rules for aration that will apply to all soils and situations, in such an extensive county as Ayrshire; but the few general observations that have been risked may be of use, taken as a whole.

The next great branch of Ayrshire husbandry, is the Dairy. This, as formerly mentioned, is chiefly confined to Kyle and Cuningham; though, of late, it has extended, in part, to Carrick, and even into the conterminous county of Wigton. Here the same complaint of deficiency cannot be made. In justice, it must be allowed that they shine without a rival, it is believed, through the whole extent of Scotland, and need not dread to enter into a competition with many of the best dairy counties of England. The dairy is employed in the manufacture of cheese. No more butter is made than is necessary for family use. These cheeses obtain the general name of *Dunlop cheese*, probably from their having been first made in that parish of the county. They are famous over all the country; and when made in the best manner, are only, if at all, inferior to the Glocester.

Where the employment is in the hands of so many, and must often be entrusted to the care of servants, it is impossible that there can be any *secret* in it. The process, in fact, is extremely simple; and it is probably more owing to a minute attention to the process itself, and to care and cleanliness, that the superior quality of these cheeses is to be ascribed, than to any thing particular, either in the nature of the soil, or of the milk of the cows that are fed upon it. The process is this.—As soon as the milk is taken from the cows, it is poured into a large pail, or pails, and, before it is quite cold, the substance, called the *steep*, is mixed with it. When it is sufficiently coagulated, it is cut transversely with a broad knife made for the purpose, or a broad three-toed instrument, in order to let the curd subside, and to procure the separation of the whey from it. When this separation is observed to have taken place, the curd is lifted with a ladle, or something similar, into the *chissel*, (for it is to be observed, that where a proper attention is paid to the making of these cheeses, no woman's hand ought ever to touch the curd, from the milking of the cow to the finishing of the whole), when it remains a few hours, till it has acquired something of a hardness or consistency. It is then taken out of the cheese-press, and cut into small pieces, with the instrument above mentioned, of the size of one or two cubic inches, after which it receives the due proportion of salt, and is again replaced in

in the *chissel*, put into the press, where it remains a few hours again. Then it is taken out a second time, cut as before, and mixed thoroughly, so as every part may receive the benefit of the salt; and, for the last time, it is put into the cheese-press, where it remains until replaced by its successor. After this is done, it must be laid in a clean and cool place, till sufficiently dried, and fit to be carried to market; great care is to be used in frequent turning and rubbing, both to keep the cheese dry and clean, and to preserve it from swelling and bursting with the heat, vulgarly, '*fire-fanging.*' When these cheeses are properly made and dried, as they ought to be, they have a rich and delicious flavour, highly preferable to many of the fat greasy sort, of the same quality, that come from some of the counties of England. They are generally sold in quantities from 10s. to 12s. the stone of twenty-four pounds.

It is to the manufacture of this cheese that the farmer looks for the payment of his rent and his profit. The tillage of the farm is made subservient to this chief article of his dependence; and according as that tillage is well or ill managed, will his success be more or less; that is, he will be enabled to keep more, or fewer cows, and these cows will be better or worse fed. In those districts, where the dairy is the chief business, the turnips raised are given to the cows to keep on their milk, and to young stock that are kept, in order to promote their growth. By means of plenty of green cut clover, eat in the house, through the day, in summer, while they are, or ought to be, turned out to the fields during the cool of the night, and by means of turnip during winter, the cows give a quantity of milk that is scarcely credible;—from ten to eighteen Scots pints in the day. And each of these cows, if well managed, and of a proper kind, is said to yield to the proprietor 10*l.* 10*s.* a year. They are of a particular kind, quite different both in colour and shape from the Carrick and Galloway cattle. Their colour is generally brown and white spotted, with horns, having short and smooth hair, small neck and bones; and, at first sight, a person would pronounce them to be more soft and delicate than the other cattle above mentioned, and incapable of enduring the cold and the hardships which these are exposed to in the open fields during the winter storms, though, it is said, when they are fatted, they give equal satisfaction to the butcher with the other. Many of them, especially towards the Cuningham side, are extremely well formed, while others, though perhaps as good milkers, are perfectly the reverse. It is no uncommon thing to give from fifteen to twenty pounds, or guineas, for one of these cows; while one

of the same size, in Carrick or Galloway, would not, perhaps, yield half of the money; and for this good reason, that the one is bought for sake of milk, or the prospect of giving milk, and the other for sake of the carcase. It will be obvious, at first sight, that the profit of a dairy farm must depend upon the number of cows kept; the ease or difficulty of keeping them; and the near neighbourhood of a town or village, where the whey can be disposed of at a halfpenny the Scots pint, which, where it can be done to advantage, is said nearly to defray the expense of management; and is, upon the whole, perhaps, a more lucrative plan than feeding pigs with it.

The third branch of Ayrshire husbandry consists in the grazing and fattening of black cattle for the Scots and English markets. This business is chiefly, though not exclusively, confined to the district of Carrick. The cattle are altogether of a different make from the Kyle breed. They are generally black, and without horns, with long thick hair: their shape is round and square; straight on the back; well limbed; and when standing upright, the more that they have of the 'four-footed stool' figure, they are esteemed the more perfect. Their general look and figure, upon the whole, indicate strength and hardiness; and the finer and more perfect that figure is, the easier are they fed. This department consists of bullocks, *alias* stots and spayed queys, and of cows. The stots and spayed queys are purchased from the breeder at a yearand half, or two years old, and kept till they are three or four, when they are driven up to England along with the Galloway droves, to the St Faith's, and other English markets. These are bought in from 4l. to 8l., and sold out from 10l. to 15l. and 18l., according to their size, age and quality, and the state of the English markets. This branch of business depending on such a variety of circumstances, and often upon rumour and opinion, it is no uncommon thing for the grazier to lose his whole year's grass, and some pounds of the prime cost into the bargain. These cattle are never in the house from the time they come from the breeder, but are fed in the fields upon grass and hay till they are driven to England. The business is carried on by drovers and country dealers, a kind of middle men betwixt the Scots and English graziers, and affords great room for speculation; and it must be acknowledged, that a great deal of it, of late years, has been practised, since the price of cattle has so greatly advanced. These drovers or dealers have sometimes a little capital to begin with, and as often have only the credit, *at their outset*, of a fair character. Their common practice is to deal upon credit, by granting their bill for what they purchase, payable in three months.

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The grazier takes this bill to a bank, indorses it as cautioner, and gets the money. If the drover meets with a ready market in England, he takes up his bill by the time it falls due; if not, the cautioner gets the debt to pay. Great fortunes have sometimes been made, and as often lost, by engaging in this trade, from the precarious nature of the business; and when any of these great drovers happens to fail, they almost lay waste a whole country side. It would be a happy thing, if there were any authority, or regulation in the country, to oblige these men, as is commonly done, or expected to be done by bankers, to show what foundation they stand upon, before ever they are allowed to set out their nose to purchase a stot from any honest farmer in the country, when there is ten to one of his family being involved in utter ruin; or, what is more simple, if graziers were wise enough always to deal for ready money.

The other branch of grazing is carried on by actual farmers, and consists in buying and fattening cows for the home consumpt. The cows are either such as are old, or in any respect thought improper for breeding. They are bought at from four, to six, and eight guineas a-head, according to their size and quality; laid on the pasture about Hallowday, where they remain a year, when they are bought up either by dealers or fleshers for supplying the Edinburgh and Glasgow markets, and the other towns and villages through the west country. These require grass of a better and more fattening quality than stots, and, when fat, weigh from 18 to 24 stones, Ayrshire weight, (24 lib. to the stone). If they happen to be well chosen, and are laid on proper pasture, it is no uncommon thing, of late years, that they double the stake. This cannot, and ought not to be reckoned upon; but, though it were to be uniformly the case, yet, considering the high rent of the land upon which these cows feed, often from 2l. to 4l. *per* acre; considering, also, that some of these cows turn out faulty;—many of them prove with calf; and what is worse than all the rest, the risk of bad markets and bad clients;—though a farmer were to get the above price, it would seem no more than what is necessary to indemnify him. These cows are, in like manner, fed in the open fields during the whole season. They seldom or ever get any turnip or other green food during winter; but when the pastures, towards New Year's Day, begin to fail, they are fed on hay or straw, once or twice a-day, till towards the beginning of May.

Another species of this kind of grazing, that has become very common, is the buying in of, what are called, slack, or draught ewes. These are commonly bought at from five to eight shillings a-head. Instead of turnip, they are laid on grass about

Martinmas; the lambs are taken off about midsummer, and the ewes remain nearly out the whole year. When they are well chosen, and are put upon a proper soil, they turn out a profitable speculation, and are adapted to the means of small farmers, whose capital may not be able to reach to a drove of black cattle.

The house or stall-feeding has become common since the turnip husbandry has been introduced, though only in a limited degree; it is to that extent, however, that good beef and mutton is to be had in the shambles at all seasons of the year; and the salting up the winter mart, at Martinmas, as the *year*'s provision, is not quite so customary as it used formerly to be.

The last branch of Ayrshire husbandry that remains to be taken notice of, is, the breeding and rearing of sheep and black cattle. Though this branch extends more or less over all the county, (for there is no farmer who does not keep a considerable number of cows, either for the dairy or for breeding, and some few sheep), yet the breeding and rearing is more particularly the business of the six moor parishes of the county, and of part of those parishes that lye contiguous to them. In these, it is the chief, if not the sole business. Any little tillage, they have, is only a secondary object, the intention of which is, partly to procure an addition to the winter fodder, and partly to furnish oat-meal for the family. These farms lye high, among 'the heath-covered mountains' of the south and south-east extremities of Aryshire, and are generally of large extent. The sheep that are kept, for it cannot be said fed, upon them, are all of the short black-faced kind. Some few trials, it is said, have been made of the Cheviot breed; but, though these are reported to have succeeded beyond expectation, the partiality runs in favour of the native stock.

These sheep are fed as God Almighty feeds the fowls of the air and the fish of the sea; upon what they can pick up themselves of nature's bounty, without the labour or assistance of man. The tenants have not yet taken the example of some of their southern neighbours, in raising green food for them, which is known to be of use in counteracting some of the diseases to which young sheep especially are liable about the beginning of winter, nor a little hay for them when the ground is covered with snow; the consequence of which is, that many of their best wedder lambs, towards the beginning of winter, die of that inflammatory cholic called the *braxy*, and which a little red clover or turnip would probably prevent, by keeping their bowels in rather an open state; and the elder sheep are often in a state of extreme weakness and poverty before the summer grass comes forward. In other respects, the management of the sheep stock is nothing different from what it is in other places

places for the same kind of sheep. Salving, or smearing with butter and tar, universally prevails. How this should have been a practice, time immemorial, to the south of the Forth, and not to the north of that river, is a problem, one would imagine, not easily solved. The writer of this article has known sheep, on the north side of the Forth, sold at 10s. a piece, upwards of five-and-fifty years ago, which was a great price in those days; and there never was a particle of tar or butter put on their body. The wedders are sold off to supply the home market at two or three years old, according to the pasture on which they feed. If it is fit to carry them on to three, it is considered as most profitable. Great part of their wool is sold to the English clothiers.

Along with flocks of sheep, the tenants on these moor farms keep a number of breeding cattle, according to the extent of their farms, from ten or a dozen, to twenty, and even forty. These are all of the kind formerly mentioned, whose produce generally, at two years old, is transferred to the grazier, and by him prepared for the English markets. The great and evident defect in the management of farms of this last description, is the want of a sufficient quantity of wholesome nourishing food during the winter season. This is a grievous defect indeed, which they often sorely feel, though they have not yet found the way to remedy it. And another, scarce inferior to it, is their keeping near a third part more stock on their ground than they ought to do. But, like other things complained of, it is only time, and perhaps a little additional rent, that will cause them alter their plans. For since the great advance in the price of stock, the tenants on these farms are generally supposed to be in a more prosperous state than those upon farms where tillage is the chief concern.

These cursory remarks on the present state of Ayrshire husbandry will present to the reader no unfavourable view of the county upon the whole. It is indeed a county of that extent and importance in the national scale, that no man who regards the welfare of his country can behold its rapidly increasing improvement with indifference. Even as it is, let a patriot or a philanthropist place themselves upon the top of Loudon or Brown-Carrick hill, and cast their eye along the fertile plains of Kyle and Cuningham, and turn round to the vales and dales of Carrick, and even 'over the hills where Girvan, Doon and Stinchar flow,' it is impossible that he can contemplate the enlivened and varied scene without the most animated satisfaction and delight, which it would require the genius of her native bard fully to describe. They would feel a kind of prophetic inspiration, and be ready to foretell, that if the same enlightened and fostering genius that has

presided over its infancy shall continue to guide and nourish its future progress, the county of Ayr at no very distant period will rival the fairest and most productive counties in Scotland, and come very little behind many even in England itself.

It would be a desirable thing, if it could be obtained, to have the real annual *value* of all these various objects of industry fully ascertained. This would go far to decide that important question, about which so much speculation and so many complaints have been raised,—the extent of rent. For, as it is from the produce of the farm that the rent alone can be paid, it is the *quantum* of that produce that can determine what the rent ought to be. But here a difficulty presents itself, *in limine*, 'What proportion of that produce ought the landholder in justice to receive?' This is a nice question, and which, it is apprehended, cannot be speedily answered. There are such a variety of points that must be brought into the calculation, that in fact it is the most difficult thing in the world to settle it upon fair and equitable principles. Besides skill and industry in management, and variable seasons, which some people will think matters of the first consideration, the state of national prosperity and public regulations must be brought under review; the increase or depression of population, of trade and manufactures, of the value of farm produce, and the probable prospect of future amelioriations; all these must be duly weighed before a rent can be pronounced too little or too much. The regulations respecting this matter have varied in different ages and nations. We are told, that in Egypt, in ancient times, the fifth of the produce was the stipulated demand. In China, at the present time, the emperor, who is sole lord of the soil, receives the tenth in lieu of rent and all taxes. The British landholder, who has his share of the public expenses to pay, and is subjected, with other men, to the advance in the price of articles of daily consumpt, will probably think either of these shares of the produce too little. If men's jarring interests and passions would allow them to judge candidly, the point would be more easily settled. If we should then lay it down as an axiom, that proprietors and tenants have a joint right in the property, that their interests are equal, and so mutual and reciprocal, that they must stand or fall together; if we admit of this principle, we are come a step neare. and will be more disposed to admit of the conclusion, viz. That when there is an allowed equality in these things, there ought also to be an equality allowed in dividing the produce. Suppose that produce is divided into three equal parts, the landlord would receive one third for rent; one third would be allowed for expense of management and public charges; and the

other

other as an equivalent for the tenant's trouble, the interest on his capital stock, and his profit.

Whether this or any more equitable mode shall be resorted to, let landholders lay it down as a proposition as certain as any in Euclid, 'That their interest, and the interest of their tenants, are inseparable.' Let them therefore endeavour to render them respectable and independent. Let them give every encouragement in their power, such as a sufficient duration of lease; rendering that lease a truly marketable commodity; freeing them from mills and every other species of servitude; affording good farm-steads, and every other necessary accommodation of inclosures, roads, and ready markets. Let tenants, on the other hand, resolve to give the proprietor a fair and honest compensation for the possession of the ground, and the permanent improvements he may have made upon it. Thus they will be mutual aids to each other, and the country will rapidly increase in beauty, wealth and prosperity.

These things press so much upon my mind, that were I to indulge them, they would make me trespass on your bounds, which I am afraid I have done already. But you may divide or lop off superfluities as you judge proper. I shall therefore conclude with my best wishes for your future success, only craving leave to add the noble motto of your Magazine, as an appropriate epilogue to a dissertation of this kind.

'Ye generous Britons, venerate the plough,
And o'er your hills, and long withdrawing vales,
Let Autumn spread her treasures to the sun.'

AGRICOLA.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the progressive Improvement of Agriculture in the District of Tweeddale.

SIR,

ACCORDING to promise, I send you a short statement of the progressive improvement of agriculture in Tweeddale district.

In the *first* place, as a general proof of the progress of improvement (excepting such abatement as may be made in consideration of the depreciation of money) I would state the *Rise of the rent of Land.* Farms, now falling out of lease, and which had been held only upon lease for nineteen years, give, upon new leasing for nineteen years, at an average, nearly three times their former rent; and this holds equally as to both arable and sheep farms. Yet farming expenses are very much increased: The price of horses,

wages of servants, and day-labourers, with the prices of iron, wood, &c. have all risen, I may safely say, to one and a half of what they were within these six years. The wages of women servants, for the summer half year, have risen with particular rapidity within these two years; the truth is, they were longer in starting than they were entitled to have been; for, considering the near equality of women's work to that of men, in the lighter country labours of planting, hoeing, haymaking and shearing, many farmers are of opinion that the wages of the women are still lowest, although they have been doubled, at an average, within these three or four years.

Arable Lands.—In the *Agricultural Survey of Tweeddale*, published in 1802, it is observed, that the rotation of Norfolk (viz. 1st, *fallow, dunged, under green drilled crop*; 2d, *bear sown off with grass seeds*; 3d, *hay*; 4th, *oats*) was nearly universally adopted upon *the old crofts*; but that the old system, as to *the outfield* (viz. *folding upon the sward, when too much fogged to be valuable in pasture with sheep or black cattle; then cropping it with oats so long as they would repay a little more than seed and labour; then leaving it in a state of exhaustion, to gather sward by unassisted nature's provision to that effect*) was still pretty prevalent. At present, in regard to the *old crofts*, the adoption of a proper system of rotation may be considered as universal; yet I would not venture to say but that, upon very narrow inspection, one solitary exception might here and there be found. In regard to the *out-field*, the old system is rapidly giving way to a better: aration is extending up the skirts of our hills, not for the purpose of obtaining, as formerly, oat crops so far as the limits of exhaustion will permit, but for the purpose of improving the pasture, by meliorating the land and laying it off in grass while in good heart. These encroachments on the skirts of the pasture hills are also frequently made for the purpose of making addition to the old crofts, and to be kept, along with them, in permanent tillage under the Norfolk rotation already alluded to; though I may here observe, that a rotation of five shifts (by interposing a crop of peas betwixt the oat crop and the *revert* to fallow) is sometimes in use upon rich land; the four-shift rotation being, however, generally preferred. In Traquair parish the dominion of the muircock has been thus considerably narrowed by the conversion of heather into grass.

The encouragement to enlarge the breadth of land destined to continued rotation tillage (or *crofting*) is increased, from the practice having become more general of hiring turnip fields, to be eaten upon the ground by sheep in flakes. Arable farmers, who have few cattle, or few or no sheep, and who might hesitate to extend their turnip crop, from distrust in their marketing skill in

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the purchase and sale of the animals that ought to consume them, may now lay their account with meeting a considerable competition for their turnip fields. And arable and sheep farming are thus more and more acting in co-operation, to the mutual benefit of both.

The hay crop is, in this system, the least profitable (when it can be disposed of at all) and the most precarious as to finding a market. With provision of this sort, which most sheep farms have within themselves, snow storms seldom occur of that duration as to cause a sufficient demand for the hay now raised in Tweeddale for the maintenance of the sheep. There are no extensive manufactures to imply a consumpt from horses used in carriage; and the demand from inns is very trifling: Edinburgh (at the average distance say of 25 miles) is the only market sufficiently large to take off the surplus. In this deficiency of regular market, many farmers prefer pasturing their sown grass to cutting it for hay, after the general fashion of your East Lothian farmers; but the want of enclosure incapacitates their fields for such appropriation *. From the small extent of our arable fields, compared to those in East Lothian, such enclosure of each field of the shift would come much more expensive than the benefit would repay; because the generality of our fields only extend from 6 to 12 acres. Our farmers would, nevertheless, be willing to pay full interest for such enclosure; and it would certainly be advantageous for the unentailed proprietor even to borrow money for the purpose, as, during the currency of the lease, he could be no loser in getting common interest for his money; and, at the end thereof, he might expect a rise, not otherwise attainable, by having thus put the tenant in a capacity of carrying his farming to its highest stretch, and showing what the farm could do when placed under such favourable circumstances. By enclosure, however, I must be understood to mean substantial stone dyke enclosure; I believe no Tweeddale tenant would consent to pay interest for a hedge; and would almost rather pass from such enclosure, than consent merely to the burthen of upholding.

The cultivation of *wheat*, after having been given up, has been introduced again within these few years, and is more and more extending. The most extensive sowing is by Mr Park (alluded to in the foot note of page 52d of the Agricultural Survey of Tweeddale). His fields may lye at the elevation of about four hundred

* The extreme barrenness of this Spring cleared all our farmers' hands of their hay, at the rate, generally, of eighteenpence per stone, lifted at the door.

hundred feet above sea level. He informs me he had last season about fifty acres under that crop, which proved of excellent quality, and has encouraged him to extend his sowing to near one hundred this season. His wheat is sown, after turnip eaten by sheep upon the ground; and he continued this season to sow, as the sheep cleared the land, through the whole of the month of February. Some part of this year's sowing is after clover lea. Mr Campbell, proprietor of Kaiizie, follows, in his farming, the rotation of four shifts, already mentioned; and, for the last two crops, he has had wheat in the very unexpensive mode of substituting it for the oat crop, after cutting both first and after-growth of his hay field, and without any dung. The crops, he says, are not luxuriant; but, nevertheless, much more profitable than any other crop after a clover lea, which encourages him to proceed. His fields may lye four hundred and fifty feet above sea level; his soil is deep free clay. In a lighter soil, it is continuing to be cultivated in a very small, but increasing extent, in Peebles and Eddlestone parishes, at from five to six hundred feet above sea level. Here it is chiefly sown upon that part of the drill crop and fallow which was under potatoes; and which (for want of demand for more almost than mere family use) bears small proportion to the part under turnip, and may be confined, in each farm, to one or two acres: a little lime, or sprinkling of dung, is given after raising the potatoes. Like every thing new, the practice has its advocates and opposers, as profitable both immediately and ultimately, or as ultimately unprofitable.

It is pleasing to observe the increasing extension of these enlightened views of self-interest, which lead to the relinquishment of present advantages, in prospect of superior advantage in future: this, indeed, is the essential of all improvement; *disinterested improvement* being, in most cases, a contradiction in terms. I am led to this reflection by an instance in point, (occurring last season in the practice of one of the members of Eddlestone Club), of a sacrifice of advantages already obtained, to the superior, but more distant advantage, of getting his whole tillage lands at once into a proper system of rotation. The croft-land of his farm, (at the east end of which his houses were set down), consisted of betwixt fifty and sixty acres, which he entered to in a most wretched condition. Besides improvements on the hill part of the farm for pasture, he found it convenient to add to the croft for continued rotation tillage, under the four shifts, as before stated. His additions, however, did not render his crofts more square in shape; they extended to a great length (westward from the house) in proportion to their breadth. He therefore found it highly expedient, in order to save carriage both of dung and turnip,

nip, to divide his land into two, and to put each of the halves into separate subdivisions of four fields each, each of the four consisting of ten or twelve acres, the four fields nearest the onstead to be carried on with dung from it, and the turnips pulled and eaten in the house; the four farthest from the onstead to get little or no dung, but to depend chiefly, for their enrichment, upon having the turnip consumed by sheep upon the ground. In doing so at once, he was obliged to disregard the arrangement of cropping, under which the land had been placed, as he could originally correct it, in the course of improving; for this purpose, it was necessary, in one of the new subdivisions, to plough up for turnip about seven acres which had been sown out with grass-seeds with the preceding crop, without taking a crop of hay; and also to convert again into turnip-crop about half that quantity, in this subdivision, which had been turnip the preceding season. In another subdivision, twelve acres, which had borne one crop after turnip, was put under turnip-crop again; the other cross cropping to which he was reduced, need not be specified in illustration, as implying no such relinquishment of advantages already obtained. It may be alleged, and justly, that, had the ultimate advantage to be obtained by this new division been clearly discerned at the outset, an arrangement suitable to these views might have been adopted from the first; though, I believe, in farming, and in every thing, few conceive at first that extent of design which develops itself to them in the course of practice. Be that, however, as it may, to me, who can recollect the state of the county for more than thirty years back, such power of self-denial, as to immediate advantage, in *a tenant*, upon the transitory tenure of a nineteen years' lease, forms a pleasing contrast to the short-sighted, unenlightened graspings at present advantage then prevalent;—when I have known *a proprietor*, after being goaded on by a mere sense of shame to dress a field in turnip, incapable of relinquishing the advantage of two white crops before sowing it with grass; or of breaking it up from sown grass, without two years crops of hay.

Sheep-farming must be considered as the staple husbandry of this county.

In regard to the arable land attached to sheep farms, the observations already made are applicable.

The Cheviot breed, noticed as introduced in the survey of Tweedale published in 1802, have now become prevalent: I may safely say, that two thirds, or rather three fourths of the Tweeddale mountains are occupied by them; they are in possession of the highest lying farms in the parishes of Linton and Tweedsmuir, the highest lying parishes of the county.

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Excepting the risk of death in the lambs in bad weather, from their greater nakedness when dropt, they have the character of health and hardiness. From the superior fineness of wool, they seem to yield nearly half-a-crown *per* fleece more than the old black-faced coarse-woolled horned breed. As to their yield to the butcher (which must ultimately decide their value), the point may not as yet be perfectly ascertained; or whether on grass of the same coarseness, either lambs or old sheep will fatten as readily as the coarse-woolled species *? Meantime, this circumstance is of less importance as to immediate profit; as the ewe-lambs bear a higher price than for killing, with those who wish to get into that breed; and even the wedder-lambs are in request from the demand of those who wish to plenish high-lying farms in wedders of that species for the immediate object of the higher price of their wool. At present, however, sheep farmers must contrive (at the rents now given) to make each individual stock sheep pay from 7s. to near 10s. of yearly rent; and it is alleged that the old breed could not pay the rents of the new leases.

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* For the purpose of a comparative trial, a farmer, in the parish of Eddleston, upon a low-lying farm, where he kept the white-faced breed, bought in some wedder lambs of the black-faced breed from a neighbouring farm, and started them fairly against an equal number of his own wedder lambs; both being the best that their respective farms could produce. They were equally treated in all respects; and both were, at two years old, sold fat to the butcher; when, besides the superior current profit of the wool during the keeping, the white-faced proved best in carcase, and also fewer of them had died in the currency of the experiment.

Two years since, I happened to meet with a farmer from the parish of Maxton in Roxburghshire, who informed me, that he had once bought in sheep to be fed off upon land laid down in improved pasture; a proportion of them were of the Cheviot breed; and the rest of the black-faced Tweeddale breed, from the farm of Ormiston in Inverleithan parish. He bargained with a butcher to take the whole parcel (they were ewes and lambs), as they should get ready; the whole to be taken away against a given time, and the butcher having a privilege to reject a specified number both of the lambs and dams. The whole of the Tweeddale lambs were uplifted before any of the Cheviots were taken away; and the same with the dams; and all the lambs and dams rejected by the butcher were of the Cheviot breed.

I give these facts as I have them,—well aware, that little can be inferred from single facts; and that in regard to every particular fact, *the whole circumstances* ought to be taken into consideration, before a just inference can be drawn from it.

It is said, that fewer of the Cheviot can be maintained upon a given quantity of pasture than of the Tweeddale breed,—in the proportion, it has been alleged, of nine to ten.

I shall conclude my present essay by giving an account of an experiment made, and of another imported, by Sir George Montgomerie of Magbiehill.

This winter Sir George had a large quantity of turnip stored up in long narrow ridges, piled upon one another, till terminating in a narrow ridge, like cannon shot in an arsenal. In one of those ridges he had made the servants place all the turnip with the shaw end undermost, in the view of their standing firmer, till thatch could be laid over them, and with the less danger of tumbling down: the rest had been piled up higgeldy-piggeldy, just as they came to hand. The first mentioned were the last in being used; and, yet they exhibited no marks of sprouting, which the latter had done. It may be worth while for turnip storers to repeat an experiment so very easily made. I may add, as to storing, that, for spring food, it is often done by raising earth over them, where they grow, by the plough.

The second experiment is an English invention, to secure trees against being barked, in winter, by the deer in deer-parks. The trees are whitewashed, from the ground to beyond reach of the animal, with thin lime-mortar, laid on from a bucket by a painter's whitening brush. The materials are cheap; the operation expeditious. The recipe I have witnessed to be perfectly effectual at Mr Loch's of Rachan; where his trees are always, in winter, exposed both to sheep and hares; by both of which they had been in use to be much injured.

I am, Sir, your most obedient servant,

Tweeddale, 8th April 1807. F.

P. S.—Since writing the above, I have been favoured, by the last mentioned gentleman, with a register of his dates of commencing and finishing of sowing and reaping. The preservation of such registers would prevent farmers from being disproportionately elevated or depressed at the recurrence of early or late spring seasons.

In his accompanying letter he makes the following general remark;—that comparing the annual produce, twenty-five years since, with the present annual returns of the arable lands around his place, within a circle of ten miles radius (taking in every thing well or ill farmed) the return of oats was only about three seeds, and may now be about four. Thus, you see that, even under improved farming, the multiplication of provisions goes on at a very slow rate; and how soon we might be reduced to mutual cutting of throats, to avoid universal starving, were every one, so soon as able, to set to work to increase and multiply. In various parts of America, population has doubled in fifteen years; and, of course

course, might quadruple in thirty years; and we might propagate at an equal rate, had we equal resource of unoccupied land to afford meat for all the mouths that might equally speedily be opened.

Register above referred to, which relates to Oats and Peas; Barley being sown, in general, about the beginning of May.

Dates of sowing, from 1773 to 1806.	Dates of shearing, from 1773 to 1806.
1773, Began 17. March.	Began August 31.;—Ended 4. October.
1774, Do. 26. Do.	Do. Sept. 17. Do. 5. October.
1775, Do. 22. Do.	Do. August 24. Do. 28. September.
1776, Do. 26. Do.	Do. Sept. 3. Do. 8. October.
1777, Do. 20. Do.	Do. Do. 1. Do. 30. September.
1778, Do. 7. April.	Do. Do. 7. Do. 13. October.
1779, ... Finished 19. March.	Do. August 23. Do. 26. September.

The above in the Parish of Coulter, Lanarkshire;—the following at Rachan, Peebleshire.

1780, Began 8. April;—Finished 26. April.	Began Sept. 5.;—Ended 30. September.
1781, Do. 20. March, Do. 30. Mar.	Do. Aug. 29. Do. 22. Do.
1782, Do. 8. April, Do. 26. April.	Do. Sept. 19. Do. 11. November.
1783, Do. 18. March, Do. 9. Do.	Do. Do. 2. Do. 10. October.
1784, Do. 5. April, Do. 23. Do.	Do. Do. 27. Do. 22. Do.
1785, omitted, but must have been in April, as March was constant frost.	Do. Aug. 23. Do. 13. Do.
1786, Began 31. March;—Finished in April.	Do. Do. 28. Do. 16. Do.
1787, Do. 19. Do. Do. in Do.	Do. Sept. 26. Do. 2. November.
1788, Do. 26. Do. Do. in Do.	Do. Do. 8. Do. 14. October.
1789, Do. 6. April, Do. in Do.	Do. Do. 16. Do. 26. Do.
1790, Do. 15. March, Do. 29. Mar.	Do. Do. 27. Do. 21. Do.
1791, Do. 17. Do. Do. 7. April.	Do. Do. 19. Do. all in on 29. Do.
1792, Do. 4. April, Do. 16. Do.	Do. Do. 24. Do. & do. 27. Do.
1793, Do. 25. March, Do. 5. Do.	Do. Oct. 7. Do. & do. 28. Do.
1794, Do. 22. Do. Do. 5. Do.	Do. Sept. 8.;—Ended 29. September.
1795, Do. 2. April Do. in Do.	Do. Do. 21. Do. & in 26. October.
1796, Do. 12. March Do. 13. Do.	Do. Do. 19. Do. & do. 26. Do.
1797, Do. 16. Do. Do. 14. Do.	Do. Do. 23.;—Ended 1. November.
1798, Do. 28. Do. Do. 17. Do.	Do. Aug. 22. Do. & in 3. October.
1799, Do. 28. Do. Do. 17. Do.	Do. Sept. 26. Do. 31. Oct. not in till 30. Nov.
1800, Do. 24. Do. Do. 22. Do.	Do. Aug. 26. Do. 25. Sept. and in 7. Oct.
1801, Do. 12. Do. Do. 6. Do.	Do. Do. 31. Do. 24. Do. in 30 Sept.
1802, Do. 23. Do. Do. 3. Do.	Do. Sept. 20. Do. 15. Do. in 22. October.
1803, Do. 21. Do. Do. 12. Do.	Do. Aug. 29.;—Ended 29. September.
1804, Do. 3. April, Do. 11. Do.	Do. Sept. 3. Do. 1. October.
1805, Do. 21. March Do. 4. Do.	Do. Do. 4. Do. 26. September.
1806, Do. 25. Do. Do. 5. Do.	Do. Do. 1. Do. 6. October.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Strictures on instituting Evening Schools for the instruction of Farm Servants.

SIR,

I READ in the 7th volume of your Magazine, page 456, a paper which brought the grand academy of Langado * to my recollection. Your Banffshire correspondent's proposals seem the counterpart of the project for communicating the knowledge of all the *arts* and sciences, without the least assistance of genius or study, but by the mere mechanical movements of a frame containing all the words of the language of the country lying in promiscuous disorder.

Notwithstanding the numerous improvements which have of late been made, and which have contributed largely to ameliorate the condition of men in every rank of society, enough of moral and physical evil still remains, sadly to assure the philanthropist that the golden age has not yet returned.

It is, however, the duty of every man, by active benevolence, to increase the *good*, and diminish the *ill* of human life, as much as may be in his power. On this principle the zeal of your correspondent to diffuse knowledge more extensively among farm servants is commendable. But, in admitting that he was prompted by good motives to give publicity to his scheme for that purpose, is surely all the merit to which he has any claim. Had he reflected, he must have seen that it was unnecessary, impracticable, and could be followed with no good consequences.

Have we not parochial schools, which render the means of attaining education easy in this country? Have not those who live too remote to enjoy the advantages resulting from them, and at the same time sensible of their utility, erected schools and employed teachers for the benefit of their offspring entirely at their own expense? Have we not schools endowed with the bounty of the charitable? Do not teachers frequently open schools at their own risk, with success? Is it not customary in many places, in the west of Scotland, where parishes are extensive in point of territory, and but thinly inhabited, for young persons, who have spent the summer at school, to employ themselves as itinerant teachers during winter?

These are facts which can neither be denied nor disputed; and surely they go a great way to supersede the necessity of new erections merely for farm servants. Yes, says your correspondent,

* Gulliver's Voyage to Laputa.

ent, we have schools; but many, on account of the poverty of their parents, are denied the least access to them, and must spend their early years in servitude, and grow to manhood in complete ignorance; *ergo* the necessity of evening schools for their instruction. Has he forgotten that, by a late act, the children of paupers are taught *gratis;* and that, even before the existence of that act, it was customary to defray the expense of educating to a certain extent the children of the indigent from the poor's funds. Knowledge is the cheapest commodity we have. A whole year's attendance at a country school does not exceed ten or twelve shillings, and in many places not so much by one third. The poorest, therefore, may receive an education suitable to their situation in life; and I deny the assertion, that they are put to service at so tender an age as your correspondent asserts. Farmers have no use for hired infants. Agricultural operations are not of a nature to be facilitated by persons younger than twelve years at least, and they may be at school at the age of six or seven. These five or six years may be spent advantageously at school, or be totally lost in idleness. If any are too indigent to afford, or too wicked to neglect, the education of their children in youth, they need not, however, grow to manhood or remain in complete ignorance. Nothing is more common than for teachers to have evening classes; and I will answer for them, that they will be very glad to see farm servants, when they can command time to attend them. Where, then, the necessity for new establishments?

Besides, your correspondent's scheme is impracticable. If only one of these rural academies is intended for each parish, many will be prevented from attending it on account of its distance. If the plan is to erect as many as may make them convenient for all, then the expense will be too great: a school must be an appendage to almost every farm-steading, and teachers will be greatly increased, while they cannot subsist on so slender fare as the cameleon. Winter is the only season which affords any time for such a purpose; and female servants, who are most likely to need instructions, cannot even then command time. The interests of masters and servants would be perpetually clashing; they cannot serve two masters with equal conscientiousness. Whilst the novelty of these evening schools remained, they might be attended; but as soon as they became familiar, it is more than probable they would be neglected. Besides, farm servants are naturally of a roving disposition, and are easily induced to change from one place to another. What permanency or stability can be expected to institutions, the chief supporters of which are able to remove from Dan even to Beersheba? Though they may [illegible] high wages. I question if they would like to spend much of

their

their money in this way. Ministers, I trust, have deservedly great influence over that class of parishioners alluded to by your correspondent; they have not, however, been able to prevail on those who have received an education in youth to read their Bibles so often as they ought to do. What success they might have, were they to insist on the propriety of contributing their money to erect schools and constitute libraries, remains to be tried.

But admitting that it is necessary that something be done for the instruction of farm servants, and also that there is no barrier to prevent the execution of your correspondent's scheme, allow me to ask, what beneficial effects could result from such institutions? With him, however, the benefits are omnipotent, their effects instantaneous and happy. No sooner are evening schools established than men, who, before their existence, were stupid, rude and obscene, are transformed, as with Harlequin's wand, into paragons of intelligence, politeness and decency. Why, in magnifying a chimera, does he offer so gross an indignity to a numerous and respectable class of the community? Why does he make so many unfounded and ill-mannered assertions? I appeal to your readers, if farm servants be not in general as respectable and as well informed as any other class of men who must earn their bread with the sweat of their brows. With regard to patriotism, I only ask your correspondent who are our volunteers? Frothy declamation, or a striking antithesis, cannot affect truth.

If farm servants are in the state of savage ignorance that is supposed, some time will be necessary to overcome bad habits, and contract new ones. I have no objection whatever to parish libraries, but despair of ever seeing them general if their establishment is left to the peasantry. They have no time for deep research or laborious investigation, therefore need few books. Had they leisure to acquire knowledge from books, and were they as successful as is pretended, yet the effects would not be good. Would men of such acquirements quietly submit to 'break the stubborn glebe?' Is not the love of ease a natural desire? Is not ambition a general feeling? And would not many, acting on these principles, be tempted to leave the *painful plough*, and aspire to situations in their estimation more honourable and less laborious? Hence the foundation would be laid for disappointment, disgrace and misery.

GNESIES.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the High Rate of Rent.—Reply to R. M. p. 52.

SIR,

IN the 29th Number of your Magazine, some remarks are inserted, upon an essay which I sent you, on the present rise in the rate of rents. In these remarks, your correspondent R. M. attempts to prove, that the reasons I had brought forward to account for the extraordinary rise of land rents, were ill founded. Whether he has been successful or not, in determining the point at issue, your readers will judge.

The principle I wished to establish, or the position laid down in the paper alluded to, was, that one great cause of the present advance of rents, originated from the competition among farmers themselves, occasioned by proprietors throwing several of their small farms into larger ones. Other causes, no doubt, have operated in producing the same effect; but to me, this appears at least one of the most obvious and striking. Indeed, the general train of reasoning employed by your correspondent confirms it; for he has laid it down as an axiom, and it is frequently repeated in the course of his remarks, 'that the rate of every article brought to market, depends upon the proportion between the demand, and the quantity exposed to sale.' To the truth of this proposition, I readily assent; and it is precisely upon this basis that I have grounded my arguments. For, if the number of farms be reduced, and the former number of farmers still come forward as competitors, the quantity (at least the individual portions) is reduced, while the demand is enlarged; or the number of farms in the market, is not in proportion to the number of farmers to purchase. This, I think, must be clear to every one who is at the trouble to examine the question.

The instance which R. M. brings forward to exemplify his argument in the case supposed, is not strictly applicable to the general state of actual affairs,—so far, at least, as they have fallen within the compass of my observation. For, though I have remarked the system of combining farms frequently practised, I have not seen an instance of any proprietor, who has reduced the number of his farms, or, which is the same thing, has increased their size in the proportion of ten to one. Were such generally the case, the competition, instead of being encouraged by the measure, would of necessity be greatly reduced, if not altogether destroyed; for, fortunate as the speculations of the farmer of late have been, in such circumstances, if any competition took place, it

it could only be maintained by capitalists and monied men of a higher cast, to whose superior influence the poor minor farmer must yield the prize, and submit with silent acquiescence.

I shall give another case, as an instance, which comes nearer to the actual state of affairs. I shall suppose *two*, or *four* farms, lying in the immediate vicinity of each other, and occupied by as many separate tenants. Let me suppose likewise, that each of these has been industrious and successful, and has reaped a decent share of the profits due to agricultural enterprise. Their leases have expired; and their landlord, adopting the system I have stated, proposes letting the whole in one, or, at farthest, in two farms. What is the consequence? Each of these tenants having secured a little capital from his former industry, and depending on his own activity and good management, thinks that he can undertake the whole, not doubting that his capital and credit, joined with his superior economy, will secure him a safe, if not an advantageous bargain, though he should adventure a little farther than common prudence would dictate. He considers, that since he had obtained a decent competency on his small farm, that he might at least acquire the same, if not a greater share of profit on a larger farm. Besides, if he does not stretch his offer by outbidding his neighbour while the opportunity is presented, he must lay his account, either to retire to some other part of the country, or give up his present employment altogether. In such a case as I have supposed, and it is by no means an uncommon one, we have at least *two*, if not *four* candidates, for each farm. Does not this, from every parity of reasoning in other cases, create a very spirited competition; and must not such a competition, produce a very considerable effect in raising the rate of rents?—Your correspondent R. M. must have lived in a fortunate part of the country, if he has not observed numerous instances of cases analagous to that I have here supposed.

The question respecting the advantages and disadvantages of large and small farms, has been frequently agitated; and those who are best informed in rural affairs, consequently most competent to decide the point, have generally given their determination in favour of the former. A proper medium, however, in this, as in other cases, will be the safest course to be pursued. The superior management on large farms, when compared with that on those of small size, will, from the nature of things, be generally admitted. Nor can it be wished by any person who entertains a sincere regard to the welfare of the country, that the exertions of the active and enterprising farmer, more than those of any other member of society, should be circumscribed within

certain limits, when capital and inclination enable him to enlarge the scale of his operations. Under certain circumstances, it is both the interest of the landlord and the tenant, that farms should be enlarged; but under different circumstances, it may be found neither prudent nor advantageous, that such a system should be introduced. The state of the country, the capital, the manners and habits of the inhabitants, ought to be previously taken into consideration, before any sweeping conclusion, applicable to the whole, can be adopted.

It is probable, that a greater part of the soil, now in a waste, or comparatively unproductive condition, might be reclaimed, or brought into a rotation of profitable crops, by granting suitable proportions of it, on improving leases and liberal terms, to small farmers, enjoining them to bring annually a certain quantity into cultivation, than by increasing the size of farms at present in such a state. Nay, perhaps this might do more towards increasing the disposable produce of the country, than would be derived from the superior cultivation of large farms. Such a mode of procedure, would operate more powerfully in maintaining that spirit of freedom and independence among the peasantry of this country, than the opposite mode of dividing it among a comparatively small number of individuals; since, as R. M. pronounces in another part of his essay, it is chiefly owing to this cause, that our superiority over our more fortunately situated neighbours, who are blest with a more genial climate and a richer soil, is so strikingly manifested. If the difference of labour performed by the person hired by the day, and him who performs piecework, be so apparent, then, from a similarity of reasoning we must infer, that the man who labours his own small property or farm, will exert a similar superiority to the hired servant; for, in the former case, he reaps the whole of the profits derived from his exertions, whereas, in the other, these must be divided with his master.

A person who is placed in a situation of ease and independence, may speak in terms of indifference of turning people 'adrift,' or obliging them to give up their small possessions to a more wealthy and fortunate neighbour, however harsh the expression may sound in the ears of the feeling and humane. By depopulating the country, and increasing the number of inhabitants in large towns, in many instances too much extended already, I think neither the moral nor political interest of the state are consulted. It must be acknowledged by all, that the inhabitants of any country, when profitably employed, are its greatest strength, as well as its truest riches. That those employed in the pursuits of agriculture are the most useful and productive members of the community,

community, cannot, I think, be disputed. That the produce of Britain is not equal to its consumpt, is acknowledged on all hands; and, that the quantity of ground now under cultivation, bears a small proportion to that lying in a waste or comparatively unproductive state, is equally indisputable. Hence it appears, that the number of hands employed in the cultivation of the soil, ought to be augmented rather than diminished. For, when other causes, physical or political, do not operate in a very striking manner, every country where provisions are cheap and plentiful, holds out the strongest inducements to the merchant, the mechanic, and manufacturer, to fix their residence there. Agriculture, manufactures, and commerce, mutually support, and are supported by each other.

That the present rage for farming, and eagerness with which agricultural speculations are entered into, is got to a very great height, when compared with the different pursuits in other lines of life, is without a doubt. That the competition among farmers themselves, owing to the landlords throwing the possessions of several tenants into one, has been a principal mean of raising this scramble, and consequently, of increasing the rate of rents, appears to me most evident, notwithstanding what your correspondent has advanced to demonstrate the contrary. Without pretending any claim to the gift of prophecy, or even any superior foresight into futurity more than other people, as R. M. insinuates I have done, I shall conclude with repeating what I observed before on the subject, 'that time only can determine, how far such policy shall be ultimately successful.'

J—— P——.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Prices of Provisions and Labour.—Reply to R. M. p. 52.

SIR,

A CORRESPONDENT, in your 29th Number, having given some severe strictures on the 'Observations on the Prices of Provisions and Labour,' you will oblige me, by inserting, at your convenience, the following Reply, if you deem it worthy of a place in your Magazine. Your correspondent allows the truth of the fundamental proposition on which I founded all my reasoning, viz. That the price of labour, like the price of any other commodity, depends entirely upon the proportion between the demand and the quantity in the market; and that whatever lessens the demand, must lower the price of labour. He, however, denies, that a low price of provisions, by increasing the facility of living, will decrease the quantity of labour in use to be brought

to market. He goes on, 'to allow that high wages occaſion a partial diſſipation among the lower claſſes;' yet aſſerts, 'that it is downright nonſenſe to ſuppoſe, that a liberal reward will have the effect of making people work leſs.' I referred to the experience of the years 1799 and 1800, for a direct proof, that a very high price of proviſions occaſioned a greater quantity of labour to be brought into the market. Though corn was, during that period, ſo extremely high in price, labour, inſtead of riſing, fell very much below its former value. The high price of proviſions, by making it more difficult for a number of people to ſupport themſelves and families without labouring, neceſſarily brought a greater quantity of labour to market; and the inevitable conſequence of this competition for employment, was a rapid fall in the price of labour. Now, if this ſtatement be correct, and I think your correſpondent cannot deny it, it follows, that a high price of proviſions has a tendency to bring a greater quantity of labour into the market; and I muſt be allowed to hold the converſe of this propoſition alſo to be true, that a low price of proviſions will have the direct contrary effect, viz. that of decreaſing the quantity of labour brought to market. But is it conſonant, either to experience, or to the acknowledged principles of human actions, that man will wear himſelf down with toil and fatigue, if he can enjoy eaſe and comfort, without ſubjecting himſelf to unremitted labour? Were the prices of proviſions to fall one third below their preſent rate, a labourer would be enabled to procure as great a quantity by the labour of two days, as he can acquire at preſent by the labour of three days; and, taking the diſpoſition of labourers in general, it may be fairly ſuppoſed that he would do leſs work in the courſe of the week. Would he not be tempted, though even working at piece-work, to indulge himſelf with ſome eaſe? and though he would not perhaps lye idle a whole day in the week, would it not be very natural for him, inſtead of toiling a whole day from morning to night, to indulge himſelf with leaving off work a little ſooner? If we average that the generality of labourers would, in this caſe, work only one hour leſs per day, this will amount to ſix hours, or half a day per week, and thirteen labourers would be required to do the work of twelve; conſequently, if the demand continued the ſame, a competition would ariſe among the employers, and an advance of wages be the conſequence. For a confirmation of my reaſoning, I would refer to the very able diſquiſitions of Pol-Œconomicus, formerly inſerted in your Magazine, particularly to his Anſwer to Sir George MacKenzie, N° XXI. p. 37. & 38. He here conſiders the idea of the price of proviſions being the *ſtandard* by which the value of labour is regulated, as the reſult of falſe aſſociations

aſſociations and caſual conjunctions of ſuperſtitious theory and miſtaken ignorance. 'It is true,' ſays he, 'that workmen do frequently urge *the hardneſs of the times*, as a mean of procuring a more liberal reward; but they do not *uniformly* appeal to the price of proviſions as the *ſtandard* by which they wiſh their wages to be regulated. They entirely depart from it in years of plenty, when their wages greatly exceed the neceſſaries of life; and nothing would diſpleaſe them more, than the idea of appealing to ſuch a ſtandard. In this caſe, the imaginary ſcale becomes the hobby of the employer;—he mounts into the ſaddle which was the ſeat of the labourer in years of ſcarcity;—he employs the tricks of the buyer to depreciate the value of the commodity he wiſhes to purchaſe;—he remonſtrates with the labourers on the extravagance of demanding the ſame wages, when proviſions are only one half of their former price. But the labourers are as deaf to his reaſoning in plenty, as he was to theirs in times of ſcarcity; and although the ſtandard is employed alternately by either party, according to the oſcillation of intereſt, in dearth or in abundance, yet we find, in fact, that it is a mere ſtalking-horſe, by which the parties ſtrive to approach their reſpective objects, but which has really little effect in promoting the end of either the one or the other.' I would again refer to the ſituation and habits of the labouring poor, as affording a direct proof, that their ſpirit of induſtry and application to labour, can be eaſily counteracted by the certain proſpect of the future ſupport, however ſcanty, afforded them by the poor's rates. How few of them, notwithſtanding the preſent high price of labour, lay up any money for the ſupport of their families in ſickneſs or in old age? And would not the ſame diſpoſition induce them to work leſs, if they could procure their preſent enjoyments by a ſmaller quantity of labour? I never dreamt of adducing our royal burghs as inſtances of the *otium cum dignitate*; they were brought forward as an example of *indolence and miſery*, ariſing from the burgeſſes being the proprietors of ſmall portions of land, from which they derive a facility of living, or rather of barely exiſting. At the ſame time, I have no objections to allow that the baneful influence of burgh politics, tends ſtrongly to increaſe their indolence and miſery, and to prevent them from applying themſelves to trade or manufactures. Neither had I any intention of denying the tendency of political inſtitutions to make a people happy or miſerable; but I contend, that too great a facility of procuring food has, independent of political inſtitutions, a ſtrong tendency to produce indolence and inactivity; conſequently, that with a given number of people, a ſmaller quantity of labour will be executed. The moſt rigid deſpotiſm does not always repreſs the ſpirit of induſtry, where

the difficulty of procuring ſubſiſtence furniſhes an all-powerful motive to the exertions of labour. The empire of China is a ſtriking example of this fact. There, although in poſſeſſion of a fine climate and fertile ſoil, the population is ſo immenſe, the difficulty of procuring food ſo great, and, conſequently, individual exertion ſo indiſpenſably neceſſary, that no nation on earth is more laborioufly induſtrious than the Chineſe, though groaning under the moſt gloomy and rigid deſpotiſm. However great may be the tendency of political liberty to produce induſtry and happineſs among *the labouring claſſes* of the community, yet no direct proof of this influence can be drawn from a compariſon betwixt the preſent ſtate of Italy, and that of its former condition under the Roman republic. For, during the ſplendid æra of Roman greatneſs, a great proportion, if not the whole, of the labouring claſſes, were ſlaves;—the Patrician families, and thoſe of the community alone, who were admitted to the rights of Roman citizens, enjoyed any ſhadow of liberty. Proofs, too, have been adduced by Mr Hume in his *Diſcourſe of the Populouſneſs of ancient nations*, that we have no reaſon to ſuppoſe, that Italy, at that time, was any better cultivated than at preſent. After citing many ancient authors, to prove that large tracts of foreſt, and of uncultivated ground exiſted, both in Greece and Italy, he adds, 'When the Roman authors complain, that Italy, which formerly exported corn, became dependent on all the provinces for its daily bread, they never aſcribe this alteration to the increaſe of its inhabitants, but to the neglect of tillage and agriculture. A natural effect of that pernicious practice of importing corn, in order to diſtribute it *gratis* among the Roman citizens, and a very bad means of multiplying the inhabitants of any country.'

As a diſpute on any ſubject, if protracted to too great a length, ceaſes to be intereſting to any but the diſputants themſelves, I ſhall not treſpaſs on the patience of your readers by any further remarks; but am, Sir, your conſtant reader, S. E.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Reply to Mr Sitwell, by a Yorkshire Farmer.

SIR,

IN the Twenty-ninth Number of your Magazine, vol. VIII. p. 1. I noticed ſome obſervations on Mr Cline's paper on the Formation of Domeſtic Animals. To the author of theſe obſervations, Mr Sitwell, the farming world and the public in general are under obligations for his very liberal and patriotic encouragement of agriculture. But I muſt confeſs that ſome of the obſervations in his letter appear to me to be erroneous.

The

The paper of Mr Cline being laid before the Board of Agriculture, was referred to a committee, and thought by the committee to poſſeſs ſo much merit, that it was recommended to preſent Mr Cline with the gold medal, the higheſt mark of approbation the Board can beſtow. The Farming Society of Ireland have thought proper to reprint Mr Cline's paper, for the purpoſe of circulating it in that country.

Mr Sitwell allows that the large breeds of ſheep have no horns; indeed all the moſt eſteemed breeds of ſheep in England are hornleſs. Moſt of the larger breeds of cattle are, it is true, horned in general; but, of moſt of theſe breeds, individuals may be found which are without horns,—the Teeſwater near Darlington, which have been fattened to a very great weight, and alſo the Devons near Barnſtable. The pure Galloway cattle are alſo hornleſs.

I have always preferred the polled cattle as leſs miſchievous, and, being more quiet, are rather more inclined to fatten; and they are much more convenient as working ſtock.

I have often reflected, with ſurpriſe, that Mr Bakewell, who ſo juſtly conſidered horns as offal in ſheep, ſhould have ſelected a breed of cattle bearing horns of the largeſt ſize.

Breeders of horſes (and in this diſtrict every farmer is more or leſs ſo) obſerve, that finer ſtock is produced by putting large mares to light blood ſtallions than *vice verſa;* a large mare having more room for the fœtus, and affording milk in proportion to the foal, than a ſmaller mare.

Mr Sitwell obſerves, that were the Merino ſheep to turn out the Leiceſters, there would 'be a want of a leg of mutton and a coat for a poor man's back.' I beg to obſerve, that my ewes, by a Merino tup, laſt year clipped ſeven pounds of wool each on an average; and that as much fine wool *per acre* can be grown as of coarſe; and that a coat of fine wool would be more agreeable, and much more ſerviceable to a poor man, than one made of coarſer wool. The form of the Merino ſheep has already received great improvement; and may we not hope that, by proper attention, this breed may produce as much mutton per acre as the larger breeds, even the New Leiceſter? That fine wool, and a propenſity to fatten, are not incompatible, is proved by thoſe flocks on the South Downs; which produce the fineſt fleece, and are always thoſe which are the ſooneſt fat.

Though I have not the good fortune to agree with Mr Sitwell in ſome of his obſervations, yet I perfectly coincide with him, that, to enable us to bring ſtock early to market, they ought, from the firſt, to be kept in high condition; indeed I believe it is more economical to keep all ſtock in very good order, as they are always ſaleable, and come to profit at an early age. I am, Sir, &c.

A YORKSHIRE FARMER.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Husbandry of Buchan.

SIR,

TAKING a retroſpective view of your uſeful and amuſing Magazine on a ſtormy day lately, when no agricultural employment could be carried on, except in barn and byre, I reſolved to take up the pen and furniſh my mite to ſuch a meritorious publication. The progreſs of agriculture, in this northern diſtrict of Aberdeenſhire, appeared worthy of public notice, and I reſolved to detail a few particulars concerning the paſt and preſent ſtate of rural matters in a quarter of the iſland little known to the public in general, though faſt advancing in almoſt every branch of improvement. Aberdeenſhire is one of the moſt extenſive counties in North Britain; but, as I am little acquainted with more of it than from ſix to ſixteen miles ſouth of the Murray Frith, I ſhall confine my obſervations within theſe bounds; wherein an alteration ſo extraordinary has taken place ſince 1760, that a perſon, who had left the diſtrict at that period, and was recently returned, would, in fact, recognize hardly any thing of the diſtrict except the ſhape of the old mountains. Every thing has progreſſively advanced, eſpecially ſince 1782;—and to agriculture belongs all the praiſe.

The ſoil of the diſtrict is in general light, of a dark brown colour, and of a ſoft, kindly and dry nature, incumbent for the moſt part upon gravel, though in ſome places upon clay, and in others upon rock; three fourths of the arable not exceeding, at an average, ſeven inches in depth of what we call *lond earth*; and the other fourth, conſiſting of the ſtrongeſt ſoil, from nine to fourteen inches. It has lately been tried with different rotations of crops, but little advantage ſeems to have been gained from theſe experiments. Owing to the ſhallow, dry and inſipid nature of the ſoil, no wheat is raiſed except on the beſt farms; and, even on theſe, only a few acres are cropped with this grain. No flocks of ſheep are kept in the diſtrict,—nor is clean ſummer fallowing much practiſed; yet, in the memorable 1799 and 1800, it exported more grain * than any other diſtrict in Scotland, Eaſt Lothian excepted.

Of

* In March 1800, I learned from the agent of a corn dealer in Banff, who was well acquainted with the ſtate of the country, that of that memorable bad crop, after paying landlord's farm, and minister's ſtipend, in oatmeal, the four pariſhes of Turriff, Aughterleſs, Fyvie and Forgue, exported each 3000 bolls, which at 2l. per boll, the current price, amounted to 24,000l. My informer, a very honeſt man, obſerved, that no other four neighbouring pariſhes in Scotland could have ſuch a quantity.

Of all the experiments that have been tried within the laſt twenty years, by thoſe reckoned the moſt ſkilful and judicious farmers, none have been found ſo profitable as rearing young cattle, and raiſing of oats. As barley ſeldom comes to perfection in this climate, bigg, or common bear, is ſubſtituted in its room, and is found from experience to be a more profitable crop.

About forty years ago, agriculture was as little understood in the district under consideration, as at present in Lochaber or Badenoch; but since 1770, improvements have progressively advanced,—and at present, soil and situation considered, are equal to those in any county of Britain. The turnip and grass husbandry are cultivated to an amazing extent, and still appear to be increasing. Large fields of *heath* or *hedder*, are annually ploughed up and brought into a state of cultivation. In 1802, a spirited farmer, whose possession is eighteen miles distant from a sea-port, where lime could be procured, broke up fifty acres of moor; and in 1804, drove 1000 barrels of Sunderland lime-shells from Macduff to said moor, the prime cost of which at the harbour, was 100*l*. The barrel is equal to two Banffshire corn firlots, which contains 64 Scotch statute pints. As there is now an excellent turnpike road from Fyvie to Portsoy, single-horse carts, when the horses are good, generally carry five barrels each, and sometimes six. Lime is in great plenty in Banffshire, both on the coast and in the interior parts, but is much inferior to the English lime in quality. At Redhyve, west from Portsoy, a considerable manufactory of lime was erected some time ago, to which vast numbers of people resort. The kiln contains upwards of 1500 barrels, and is kept constantly burning from the first of May to the end of September. The shells sell at 1s. 4d. *per* barrel, and are always used by those who are improving coarse grounds, and wish to give them a large dose, though it is certain that two barrels of this kind of lime is heavier than three of the Sunderland.

In Aberdeenshire, the firlot by which oats, bear, malt, &c. are sold, contains 34 Scots pints. In Banffshire, the firlot holds only 32 pints; and the cause of this difference is attributed to the superior quality of the soil in the latter county, which yields so much better grain as fully to compensate the deficiency of measure. Four firlots make a boll of all kinds of grain, except peas, three firlots of which constitute a boll, if no bargain is made for bushel measure. Eight stones Dutch are reckoned the boll for all kinds of meal.

Having already hinted, that agricultural improvements had progressively advanced in the northern parts of Aberdeenshire during the last forty years, a few of them shall now be mentioned.

ed. About the year 1765, the largest farms in the place consisted of what could be laboured by two ploughs;—one of which, drawn by ten oxen, was held by the farmer, and drove by the gaudman; while the other, worked by six horses, was managed by a hired servant called the horseman, and a boy. The rent of such a farm might be 40 bolls of oatmeal and 100 merks of money. The wages of the horseman were 1*l.* 5s. and a pair of *broag-shoes*, for the half year; that of the *gaudman*, or oxen driver, 1*l.*; and that of the boy 10s., exclusive of a harden shirt and a pair of shoes. The oxen which went on the land-side of the plough might be valued at 2*l.* 10s., and those on the offside at 3*l.* *per* head; the best horses at 3*l.* 10s., and those of a second rate at 2*l.*;—the best cow on the farm at 2*l.* 5s., and a three year old stot at 1*l.* 15s. Meal, on an average, was never below 11s. nor above 13s. 4d. *per* boll of eight stones.

At present, upon such a farm, more work would be performed, and to better purpose, by four horses and two men, than by all the eight cattle, six horses, and four men; owing entirely to the improved construction of ploughs, and the more improved modes of farm-management. The rent of the farm would now be 40 bolls of victual, and 40*l.* Sterling of money. The servants wages would be 7*l.* 7s. each, and the boy 2*l.* 10s.;—the land ox would cost 12*l.*, and the offside one 15*l.*;—the cow 9*l.*, and the three year old stot 10*l.*;—the first rate horse 30*l.*, and the second, or inferior one 20*l.* From these statements, it appears, that, on an average of years, grain has kept nearer its original standard than any other commodity the district produces. The writer of this article, who possesses the farm occupied by his father forty-nine years ago, last year paid more in taxes for his house, horses, and malt, than his father paid of money-rent to the landlord at the time alluded to. Some people are constantly complaining that times are much worse than forty years ago, without being able to assign any plausible reason why this should be the case; but, to me, things appear in a different point of view; for it is obvious, that money is much more plentiful, and that mankind in general know better how to use and enjoy it, than to bury it in the earth,—no uncommon practice in those days.

Some months ago, I had an agreeable conversation with a respectable old farmer in this country, whose son now possesses the farm stocked by him in 1747. This venerable old man, who has completed the eighty-ninth year of his age, and yet appears to possess his mental powers in full perfection, told me, that at his father's death, by which event he became possessed of four hundred merks of patrimony, he found it necessary, as being only the second son, to go to service: and that the highest wage he ever

ever obtained was 16s. 8d. in the half year: That in 1741, he agreed with a landed proprietor, to cast a ditch through a piece of mossy ground, ten feet wide at top, six at bottom, and six feet deep, at 8 pennies Scots, or $\frac{2}{3}$ of a penny Sterling, *per* ell; and that, while thus employed, he paid 13d. Sterling *per* week for his board: That by persevering in a course of honest industry and frugality, he found his stock, in 1747, increased to 50*l.* Sterling, with which he purchased eight oxen, all under six years of age, three cows, three horses, four one year old stots and queys; furnished his house, purchased ploughs, harrows, &c.; paid the expence of his marriage, servants' wages and other incidents;—and that at Lammas 1748, when he began to harvest his first crop, he was not due a penny to the world. He gave me a distinct account of the prime cost of each article; but, as I am not certain that I can detail the particulars with correctness, shall only say, by way of example, that his two carts, with the necessary apparatus, purchased at St. James's fair at Elgin, in 1747, cost no more than seven shillings. Great indeed, now, is the alteration; for, upon the same farm, each cart would cost 10*l.*, and each horse 20*l.* at least.

Great as these changes may appear to be, (and undoubtedly they are not inconsiderable), yet those which have taken place in the home, or household departments, seem still to exceed them. About forty years ago, three or four wooden bedsteads, the like number of meal casks, a few chests for holding the clothes of the family, and a sufficient number of ale barrels and dry casks, constituted nearly the whole furniture of the farm-house. The kitchen was the only apartment which contained a fire-place, and, of consequence, became the place of residence for the whole family, there being no difference observed betwixt master and servant, save only that the goodman and goodwife got the most convenient places at the fireside, and were honoured with the uppermost seats at table. When a farmer in those days was visited by a friend, he either entertained him at the kitchen fire in presence of his servants; or, if any particular business was to be transacted, they retired to the nearest alehouse for that purpose,—in which place, the tedious winter evening was often spent with much festivity and good-humour, and at little expense. No farmer, however, now-a-days, is under that necessity, as the modern farm-houses generally consist of a large commodious kitchen, and of at least four or five rooms, floored, ceiled, and painted, and all well furnished out in an elegant manner,—in the principal one of which resides the farmer and his family; so that he has as little connexion with his servants as the lord of the manor has with his,—and can at all times receive and entertain a friend as hospitably

hospitably and genteelly as could be wished for, without any interruption from servants, or their so much as knowing who is in the house. The like difference may be observed as to wearing apparel. Formerly, a landed proprietor and clergyman could be easily recognized at church on a Sunday by their hat and coat of English cloth;—the farmers and the rest of the society being provided only with blue bonnets, and cloths of home manufacture. The blue bonnet, however, and homespun coat, now cease to exist among farmers, and indeed, are rarely to be observed on a Sunday, even among their servants. This luxury of dress, if I may be allowed the expression, is still more observable in the female sex, though I cannot describe the particulars so minutely. Suffice it therefore to say, on the whole, and I am certain the assertion is just, that at present, more money goes from Aberdeenshire every year for broadcloths, callicoes, tea and sugar, than, fifty years ago, came to it for cattle and grain.

It remains only now, to inquire what effect these wonderful changes may have had upon the morals of the inhabitants. It is readily admitted, that all classes of the community have attained to a degree of *politeness* formerly unknown; but it is not so certain that *true piety* has made any advances,—or, rather, that it has not been for some time past in a retrograde state. Fifty years ago, the stated employment of the farmer and his wife, every Sunday evening, was to catechise their children and servants, read and explain to them the scriptures, and perform the duty of family worship; but as these laudable practices seem now to have gone much into desuetude, there is reason to fear, that, in general, the principles of our religion are not so well understood as in those days, and, of course, will have less influence upon the lives and conversations of its professors. I am, Sir, yours, &c.

A Buchan Farmer.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Husbandry of Galloway—Reply to Arator.

Sir,

About two years ago, I sent you a short essay upon the value of land in different districts, which you were kind enough to insert in your Magazine. By bringing that subject before the public in the shape that I did in that essay, I thought to have seen it at that time amply discussed by some of your enlightened correspondents. In that, however, I was rather disappointed. But I am happy to find that Arator, in the twenty-eighth Number of your Magazine, has taken the subject in hand. Now, although Arator's

Arator's practical abilities have been eminently diſplayed in your Magazine, and I find myſelf every way inferior to him in theſe reſpects, yet as *truth* needs no *colouring*, with your permiſſion, I hope I will be able clearly to point out the fallacy of his arguments in almoſt every particular of his reply to my former ſtatement.

To know the relative value of land is very difficult; and any thing that may throw the leaſt light upon that ſubject, muſt be reckoned of great importance to the practical agriculturiſt in every county. But at the time I wrote that eſſay, the fine eſtate of Baldoon was about to be valued by gentlemen from other counties, of the greateſt agricultural abilities. It was therefore a ſubject of deep and general importance in this county at that time. In ſetting a value upon the Baldoon eſtate, it is but juſt and natural to ſuppoſe that thoſe able valuators would reckon, that a part of theſe lands would be worth more, if they were managed after a ſyſtem of alternate fallow, or green and white crops, than in the manner they were formerly carried on. Now, as in this county nothing of the kind had been tried, or, at leaſt, no concluſion could be formed, from any trial that had been made, how a ſyſtem of that kind would anſwer, I can ſee no better or ſurer ground that thoſe valuators had to go upon, than a well-grounded calculation, or comparative table, with ſome of thoſe diſtricts where rotations of the above kind had been tried and approved; although Arator, in his introduction to the ſubject, labours hard to throw an odium upon all calculations of that kind, wiſhing, I ſuppoſe, either to prejudice the reader in favour of what he is about to advance againſt my former ſtatements, or otherwiſe condemn them to oblivion as unworthy of notice or regard. But to come more immediately to the point in hand. In the *firſt* place, I obſerved that, in this county, farms of 240 acres would require 600l. each to be laid out upon houſes, to put them upon an equal footing with ſimilar farms ſituated in the neighbourhood of Haddington, which, at 7½ per cent., I reckoned at 45l. yearly. But Arator ſeems to think, that before this ſuppoſition be allowed, I muſt prove that houſes are no burden to the Haddington farmer, or that their whole expenſe is defrayed by the landlord. This appears to me quite foreign to the ſubject; for if the houſes upon farms of the above ſize, upon an average, be worth 600l. more in the one county than in the other, my point is clearly proved; and this Arator does not deny: nay, the vaſt ſums of money he has expended upon houſes upon his own farms, are a direct proof of it: for I cannot ſuppoſe that houſes are of leſs value to the farm, merely becauſe they were not put up by the landlord, but by the tenant. And here it may be obſerved, once for all, that my comparative table was drawn with a view to the general

general ſtate of farms as they are at *preſent* in the two counties; and not what they were *fifty years ago*, or may be *twenty years hence*.

In the *ſecond* place, Arator objects to the ſum of 1020l. on account of the ſuperior condition of farms at entry in the one county above the other. Here he argues in a very inconſiſtent manner: for although he allows that, upon valuing a farm, where both a fallow break and graſs ground were to be left by the outgoing tenant, that one year's rent would be loſt in the three firſt years of the new leaſe; yet he will not allow that there is any difference in the ſtate of farms at entry in the one county more than in the other. If this were the caſe, I perfectly agree with Arator, that I am not only *little aquaint*, but *totally ignorant* of Eaſt-Lothian rural matters; for I always ſuppoſed that farming was in its infancy in Galloway, when compared with Eaſt-Lothian; and that farms were left in a much better ſtate by the outgoing tenant in the one county, than in the other; and, if ſo, landlords in the county need not be overly anxious to introduce Eaſt-Lothian farming here, if the lands are nothing benefited thereby at the end of the leaſe. But I am afraid Arator is little acquainted with the preſent ſtate of farms in this county, otherwiſe he would not have objected to my ſtatement on this head.

In the *third* place, Arator agrees with me, that the climate in Eaſt-Lothian is drier than in Galloway. He alſo allows that the management of clay ſoils is a difficult buſineſs in both diſtricts; and that a greater ſtrength than called for upon light ſoils is abſolutely indiſpenſable. And yet, after all, he will not allow that more ploughs are neceſſary in the one diſtrict than in the other. Why—what is the reaſon that clay ſoils are difficult to manage? Certainly it is owing to their wetneſs, and nothing elſe; and if the climate in this county is wetter than the climate of Eaſt Lothian, it is as clear as any of Euclid's propoſitions, that a greater ſtrength both of men and horſes will be neceſſary to the proper management of clay ſoils in this diſtrict; and not only ſo, but it will be often abſolutely impoſſible to have theſe lands ſo perfectly managed in this county, which will often diminiſh the produce of theſe lands in this diſtrict very materially. Arator appeals to the general practice of the two counties, what number of ploughs are neceſſary upon farms of the above ſize. Now, although the number of ploughs neceſſary to work a farm of clay land perfectly in Eaſt-Lothian, may be eaſily aſcertained in that way,—and at ſome future period that may be known alſo in this diſtrict; yet, at preſent, no proper concluſion can be made from paſt experience.

Again, it is an undeniable fact, that, in Galloway, our drieſt ſeaſons always produce our greateſt crops upon all our clay lands, both

both as to quantity and quality; and that not only wheat, but alſo oats, and even graſs and clover, and crops of all kinds, on lands of this deſcription, turn out badly in a wet ſeaſon. This proves to a certainty, that if our climate were dryer, our crops would be greater. If, as Arator obſerves, oats turn out badly upon clay lands in Eaſt Lothian through the dryneſs of the ſeaſon, it proves that the climate is much dryer in the one county than in the other; for this never happens in Galloway, at leaſt I have never known it to be ſo. But it by no means follows from thence, that the Eaſt Lothian climate is too dry, for I make no doubt but that a wet ſeaſon will be ſtill more detrimental to the different crops upon clay land, even in that county. The following queſtion anſwered, would aſcertain that point at once.—Doth Arator reckon the Eaſt Lothian climate, taking it upon an average of years, too wet or too dry for clay ſoils, every article of produce conſidered? Viewing the climate in this light, I do verily believe he will not pronounce it too dry. And if not, it will appear as evident as the nature of the caſe will admit, that if our clay ſoils enjoyed the Eaſt Lothian, or in other words, a dryer climate, they would produce greater crops, both as to quantity and quality. Whether one ſixth be the real difference, is not ſo eaſily determined. I am of opinion that the difference will be much greater than that upon wheat and barley crops, and leſs upon beans and oats, &c. But, in taking it at one ſixth upon an average, I cannot ſuppoſe I have gone beyond the mark.

Again, I am fully convinced, from what Arator advances, that the great ſums claimed by me, as deductions on account of our grain being almoſt all to ſhip to the Engliſh and Clyde markets, ought not have had a place in my comparative table. I was led into this error by being informed that the internal conſumpt was more than equal to the whole produce of the lands in the neighbourhood of Haddington; but it appears from what Arator advances, that vaſt quantities of grain are exported from that neighbourhood to the London and other markets. But the comparative table itſelf will not be materially affected thereby; for, undoubtedly, the nominal price of grain is from 10 to 30 *per cent.* higher at Haddington than at Wigton, ariſing chiefly on account of the ſuperior quality of Haddington grain. But I cannot ſuppoſe, with Arator, that our grain would bring a ſimilar price, even although it were equal to it in quality, as we are entirely out of reach of the London market, where grain of ſuperior quality has a more decided preference than I believe takes place in any other market in the kingdom. However, although the nominal price of grain at preſent may be nearly as much as I have taken it in my comparative table in favour of Eaſt Lothian; yet, as that difference ap-

pears to ariſe, in a great degree, from the difference in the quality of the grain in the two counties, and not, as I was formerly led to ſuppoſe, from the grain having to be exported from the one county, and not from the other, this may not be the caſe, at ſome time afterwards,—as I have not the leaſt doubt, if our lands were kept in a regular rotation for ſome time, that the quality of the grain would be thereby materially improved, eſpecially if proper care was taken to ſelect the beſt corns for ſeed. On this account, therefore, if I were about to make any alteration on my comparative table, I would take the difference betwixt the nominal prices of grain in the two counties at 15 *per cent.* in place of 30, as formerly ſtated by me. But, on the other hand, I would make the price of wheat at Haddington 8s. 6d. per Wincheſter buſhel, in place of 7s. 6d., as formerly ſtated; and, as to any other part of my former ſtatement, I can ſee no reaſons advanced by Arator why any of them ſhould be altered. After making theſe alterations, the difference in the value of equal clay ſoils in the two counties will be 3l. 2s., in place of 3l. 9s., as formerly ſtated by me.

As to the turnip ſoils, I am ready to admit with Arator, that the climate of Galloway is much better adapted for ſuch than for clays; and I muſt confeſs, that my comparative table, with regard to turnip ſoils, was drawn up haſtily, rather with a view to promote diſcuſſion, than from an idea that it could be ſtrictly juſtified in every particular. But I cannot ſee how turnips can be extenſively raiſed, except they be eat off by ſheep. It would certainly be a very laborious, I had almoſt ſaid impracticable, buſineſs, to have fifty acres of turnips carted into the ſtraw-yard; and would require one half of the horſes, otherwiſe neceſſary upon the farm, to cart them off; and the after crops alſo would be greatly inferior to thoſe where the turnips had been fed off by ſheep.

As to Arator's other remarks upon turnip ſoils, I am ready to admit, that they are judicious and applicable.

Some perſons may be apt to allege, that if there be 3l. 2s. per acre of difference betwixt equal clay ſoils in Galloway and the neighbourhood of Haddington, that the preſent high rents of the low lands of Baldoon will not be got paid. But I am of opinion, that the natural quality of the ſoil of the low lands is ſuperior to almoſt any lands of the kind that are to be met with in Scotland; and if they only enjoyed the Eaſt Lothian climate, I don't know what rent might be paid for them. I am, Sir, yours,

Wigton, March 4th, 1807. A GALLOWAY FARMER.

[*To*

[*To shorten this dispute, the above, before going to press, was communicated to* ARATOR, *from whom the following remarks were received, which, we trust, will settle the business.*]

MR CONDUCTOR,

I am obliged to you for a ſight of the Galloway Farmer's reply to the letter inſerted in the November Magazine, (vol. vii. p. 458.); and requeſt your permiſſion to make a few animadverſions on that communication. I ſhall be brief, becauſe the nature and weight of the replication does not call for an elaborate anſwer. Indeed it might have paſſed unnoticed, without ſubjecting the principles formerly illuſtrated to much injury. The laſt word, however, is always agreeable.

In my former letter, it was ſtated that the value of land was an abſtruſe ſubject, and one on which little light could be thrown by arguments and figures. This leading obſervation was offered, becauſe the Galloway Farmer had calculated with fractional preciſion the worth or value of land upon the weſtern and eaſtern coaſts of the iſland, without taking into conſideration that the intrinſic value of the ſoils of each might be materially different. I then queſtioned the principles upon which he proceeded, and differed with him as to the cauſes or reaſons aſſigned in ſupport of his ſeveral calculations. Whether he has or has not invalidated any thing that I ſaid, muſt be left to the determination of your readers; but, in the mean time, I beg leave to illuſtrate my former letter, and to make the following anſwer to this replication.

I maintained, in the *firſt* place, that houſes were equally a burden upon the Haddington as upon the Galloway Farmer; and that if the firſt was better accommodated than the laſt, he had, in nine caſes out of ten, to thank himſelf for the ſuperior accommodation. Now, does the Galloway Farmer controvert this ſtatement by any thing he has ſaid? or does he ſhow that the proprietors of Haddington county are more ſedulous to the comfort and welfare of thoſe below them than the proprietors of his own county? I do not obſerve any thing of this nature in his replication; therefore muſt preſume that the farmers in both diſtricts are ſimilarly circumſtanced. Indeed, were I to reaſon from the articles of roup inſerted in your Magazine, concerning the Baldoon eſtate, I might argue, that Galloway farmers are accommodated on eaſier terms than their Haddington brethren. In theſe articles, Lord Galloway binds and obliges himſelf to build houſes, and to make and repair fences, on being paid five pounds per centum per annum on the outlays, which, to be ſure, is abundantly liberal. Now, what is the Haddington cuſtom? I anſwer at once, that in general caſes, you muſt either do the whole yourſelf, or pay an annual additional rent of ſeven and a half per

centum on the ſums ſo expended. I have known ſix and a quarter per cent. ſtipulated; but when that was done, it was viewed as very moderate. I am quite aware that the Galloway Farmer proceeds upon the idea, that both houſes and fences are brought to perfection in the county of Haddington, and that the tenant, at his entry, has nothing more to do but to ſing the ſixteenth pſalm, and rejoice that he has got a *goodly heritage*. It would no doubt be highly deſirable were farmers to be ſo pleaſantly circumſtanced; but I apprehend that few of them can boaſt of ſuch advantages; I know of none (and I am well acquainted with that county from one end to the other) who can aſſert that they have entered without expenſe; nor do I believe, while improvements are in a progreſſive ſtate, that ſuch an agreeable mode of entry will ever be found practicable. The accommodation which ſuited one generation may be found utterly inadequate for the wants of a ſucceeding one; the truth of which propoſition will be ſupported by every man who has beſtowed attention upon theſe matters, or who reflects upon the diverſified opinions of mankind. This propoſition might be illuſtrated by a reference to the manſes and offices of the clergy which are ſupported by the heritors; theſe conſtantly requiring alterations and repairs at the induction of a new incumbent, and often for no better reaſon than the taſte and diſpoſition of the exiſting incumbent being different from thoſe which regulated his deceaſed predeceſſor.

In the *ſecond* place, I maintained, that the ſum of 10*zl.* as an annual deduction from the worth of a Galloway farm, on account of its bad condition at entry, was moſt improperly ſtated; and I adhere to that aſſertion with increaſed confidence, being firmly convinced that no farm whatever will, at entry, be found in good condition. Your correſpondent affirms that I argued this matter in an inconſiſtent manner. But with all due ſubmiſſion to his ſuperior knowledge, I muſt rejoin, that my argument was perfectly conſiſtent; and that the concluſions drawn are in ſtrict uniſon with my premiſes, though I will not affirm that either had been fathomed by the deepneſs of his diſcernment. In his firſt letter he aſſumed as a datum, that a farmer in Haddington-ſhire, at his entry, had only to ſow, and that a full crop would conſequently be reaped. My anſwer was, in ſubſtance, that ſome previous ſteps were neceſſary, and that in Haddington county, as well as in every other, a few years muſt elapſe before a farmer could bring his land into ſhape, or cauſe it produce crops adequate to the ſoil; or, more properly ſpeaking, to the land's natural value. In ſupport of this opinion, I gave the reſult of a valuation, in which I had been recently engaged, wherein it appeared that one year's rent out of three would be loſt at the beginning of the leaſe, notwithſtanding

withſtanding that the farm in queſtion had been previouſly ſubjected to covenants much ſtricter than thoſe uſually engroſſed in Haddington leaſes. Now I am at a loſs to perceive any inconſiſtence here, and ſuſpect the Galloway Farmer would be puzzled, were he required to condeſcend upon an inſtance. In fact, he argues from ſuppoſitions, and ſuppoſes this thing and that thing;—but ſurely I am not anſwerable for his ſuppoſitions. He might have ſuppoſed that cinnamon and nutmegs are produced in the county of Haddington; but had he done ſo, any thing that I ſaid would not have been affected by ſuch an extraordinary ſuppoſition. I take things as they are, and argue accordingly.

In the *third* place, I frankly allowed that the climate of Eaſt-Lothian is ſuperior to that of Galloway, and was diſpoſed to go much greater lengths on that point than my antagoniſt thought neceſſary. He claimed ſix and a half per cent. on the value of the grain; but had he called for ten per cent. of allowance for Galloway, I would not have differed with him. In fact, the comparative value of the perfect article at market is the real criterion by which the land of the contraſted counties can be judged. I am not to be told that clay ſoils are difficult to manage, for I know it ſufficiently well; but I apprehend that the ſtrength allowed, namely five ploughs for 144 acres under corn crops, is ſufficiently extenſive in any part of the iſland, providing a ſuitable rotation is adopted, and active management exerciſed. I know nothing about the Wigton-ſhire rotations; but I know very well, that thirty acres of corn land may be wrought by one plough and two horſes in the wetteſt ſeaſon that ever viſited North Britain. In a word, I venture to aſſert, that the diſtrict of Galloway never experienced a wetter autumn and winter than Eaſt Lothian did in 1806, and yet in few years has ſeed grain, at ſpring time, been more expeditiouſly depoſited in the earth than for the current crop.

To the doctrine, that the greateſt crops upon clay ſoils are got in dry ſeaſons, I bow with ſubmiſſion; but here I am obliged to inquire, which of the ſeaſons of the year is meant by your correſpondent? If it be the ſummer quarter, we are at one; though ſurely from this premiſe he does not argue that a greater ſtrength is required for working a farm of clay ſoil. A dry climate is of eminent advantage, both for wheat and barley, while growing,—eſpecially in the months of July and Auguſt: but does your correſpondent know that the latter end of the firſt, and a conſiderable part of the ſecond mentioned month are generally wet; and that, in conſequence, the faireſt hopes of Eaſt-Lothian farmers are often diſappointed? I ſaid, in my former letter, that he ſeemed imperfectly acquainted with Eaſt-Lothian huſbandry; and I muſt now add, that he ſeems equally unacquainted with its climate.

The queſtion put to me, whether I reckon the Eaſt Lothian climate too wet or too dry for clay ſoils, is a curious one: but I ſhall anſwer it generally,—and it can be anſwered by none in any other way. I ſay, that it is too wet in ſome ſeaſons, and rarely too dry in the ſummer quarter of any one year, for wheat and barley. But what does a queſtion of this kind reſolve itſelf into, but merely that, in the one diſtrict, the value of grain is ſuperior to what it is in the other;—a thing I never diſputed, and which, in fact, was conceded at the outſet. Indeed, as already ſaid, my ideas on this head went further than thoſe evidenced by your correſpondent; and, had he confined himſelf to an abatement for climate, I would never have challenged his comparative eſtimate. When I ſaw reaſons, however, aſſigned why the land of Galloway is of leſs value than that of Eaſt-Lothian, which I looked upon as altogether unfounded, it became a duty to lift up my teſtimony againſt them. I entertain a high opinion of Eaſt-Lothian huſbandry; but, ſtill, I would not reinforce this opinion at the expenſe of other diſtricts, nor undervalue the one, merely that the value of the other might be ſwoln beyond the juſt bounds. No perſon whatever will, I believe, rank the climate on the weſtern and eaſtern coaſts of the iſland as equally favourable to the growth of corn crops; ſtill, as the poor man's poverty and the rich man's riches are both generally exaggerated, bad may be called worſe than it actually is,—and, *vice verſa*, what is good may be eſtimated above its real worth. The ſet of the Baldoon eſtate furniſhes evidence that the clay ſoils of Wigton-ſhire cannot be rated as of much leſs value than ſimilar ſoils in other diſtricts. They may be over-rented, to be ſure; but the like remark might be urged againſt the rectitude of every recent tranſaction in the land market; and unleſs we ſuppoſe that the farmers who have entered to that property were influenced by different views than thoſe which guide their brethren in other quarters; the rents then offered muſt be conſidered as agreeable to the fair market value of land at the time, in that diſtrict.

I confeſs myſelf at a loſs how to anſwer what is ſtated in the replication, with regard to the deductions formerly claimed on account of Galloway grain being generally exported to other places; becauſe the author, in this paragraph, exceeds himſelf, and is ſingularly vague and inaccurate in every one of his reaſons or arguments. He admits that deductions ought not to have been made for merchants' profit, freight, inſurance, &c.; (theſe were reckoned at no leſs a ſum than $23\frac{1}{2}$ per cent. on the original amount;) and yet, under this admiſſion, makes no greater alteration on his firſt eſtimate, than the trifling ſum of ſeven ſhillings per acre; though it is palpably evident, that ſo many per cents as are claimed will exceed four times the amount of ſuch a deduction.

Should

Should we reckon the diſpoſeable produce as only worth ſix pounds per acre, and that is a moderate computation, it is plain that a deduction of $23\frac{1}{2}$ per cent. on that ſum, will amount to one pound eight ſhillings, or thereby; therefore, the inaccuracy of his corrected ſtatement need not be inſiſted on. In fact, the Galloway Farmer ſeems as unacquainted with Eaſt-Lothian as the noble ſecretary who apportioned the number of its volunteers. The latter perſonage ſagaciouſly concluded that Eaſt-Lothian was an inland diſtrict; and the like impreſſion ſeems to have weighed with your correſpondent; otherwiſe, why did he ſuppoſe that the internal conſumpt of the diſtrict was more than equal to its produce. So far from this being the caſe, the limits would not be exceeded were I to ſay that one hundred thouſand bolls of grain are annually ſent, either by land or water, out of the county; and were not this the caſe, how could rents be paid when hardly a ſingle manufacture is carried on within its bounds? But I need not inſiſt upon theſe matters, as it muſt be evident to every perſon that your correſpondent has written upon a ſubject with which he is ſlenderly acquainted.

In his firſt letter, the Galloway Farmer claimed a deduction of 70*l.* *per annum*, or 1470*l.* altogether, on account of ſerpentine ridges; though now, without amending his comparative table, he ſeems to have departed from the claim, as it is not ſo much as alluded to in the above replication. Serpentine ridges are, to a certain extent, inconvenient, I therefore frankly admitted them as a drawback, at the rate of forty ſhillings, or 480*l.* on the number of acres condeſcended upon; thereby paying his claim with ſomething like ſix ſhillings and ſixpence in the pound, which is a good modern dividend. What I ſtated on that head remaining unanſwered, I am at liberty to preſume that he acquieſces, though it would have been but fair to have ſaid ſo.

For the reaſons then adduced, I muſt adhere to what was mentioned in my laſt, namely, that the real difference of clay ſoil in the neighbourhood of Wigton, with ſimilar ſoil in the neighbourhood, or in the county of Haddington, does not exceed in value the ſum of one pound five ſhillings per Scotch acre. I allow two ſhillings per acre during the whole leaſe, for the expenſe of getting quit of the ſerpentine ridges, which certainly are highly inconvenient to the farmer, and the remainder for the inferiority of grain produced, being fully ten *per cent.* upon the groſs produce, inſtead of ſix and a half *per cent.* as claimed by your correſpondent. Galloway grain will undoubtedly ſell as high at Glaſgow as Eaſt Lothian grain, providing it were equally good; and it may be marketed there at no greater expenſe. That it is not ſo good, I freely admit, therefore have deducted ten *per cent.* on that account. That the quality may be greatly improved by better huſ-

bandry, is indiſputable; but the defectiveneſs of quality occaſioned by bad huſbandry cannot be charged to the ſoil, but muſt fall entirely upon the occupiers. In ſhort, Galloway is better ſituated for ſhipping markets than Eaſt Lothian. The Cumberland ports, and the great town of Liverpool, are within reach; and, to Glaſgow, cargoes may be carried with as much facility as from Eaſt Lothian. The markets on the weſtern coaſt are uniformly higher than the eaſtern ones, as may be learnt from the monthly averages; and it rarely happens, but that the London prices are conſiderably below thoſe of Glaſgow and Liverpool.

It is agreeable to obſerve, that what I ſaid upon turnip ſoils is reliſhed by your correſpondent,—though it is proper he ſhould be acquainted, that I am ten times more intimately connected with the management of heavy ſoils than of light ones. With regard to the conſumption of turnips, I never meant that fifty acres of them were to be conſumed by young cattle, becauſe I know very well, that no farmer in Galloway had ſo many young cattle as would conſume ſuch a quantity of turnips. I am not ſure either, that any Galloway farmer ever raiſed fifty acres of turnips in one ſeaſon. But, be this as it may, turnips may be given to young ſheep, as well as to young cattle; and the butcher market of the diſtrict will provide a vent for a certain number of old cattle and ſheep that may be fed. Even ſhould I hold the Glaſgow market in view, I might not be out of the way. Both cattle and ſheep, are regularly carried from Norfolk to Smithfield market, and the diſtance is greater than betwixt Galloway and Glaſgow. Allow me to add, that if Galloway farmers would direct their attention to raiſe good corn, and to feed fat cattle and ſheep, local circumſtances will not bring the value of the ſoil in that diſtrict lower down in the ſcale than I have condeſcended upon.

I am, yours, &c. ARATOR.

NOTE BY THE CONDUCTOR.

Since the two preceding articles on the value of land in Wigtonſhire, &c. went to preſs, a ſtring of reſolutions, on a ſubject ſomething ſimilar, has appeared in the newſpapers, wherein the laſt paragraph of our Quarterly Report from that county, in the May Number, is ſeverely cenſured. While we diſclaim all reſponſibility to the gentlemen and farmers who are members of the Agricultural Society of the lower diſtrict of Wigtonſhire, reſpect to the public influences us to ſay a few words on the ſubject which lately occupied the ſpecial attention of that Society.

The paragraph of the Report animadverted upon, may be divided into two branches, in one of which, the operations of the Balloon tenants are ſlightly noticed, and in the other ſome obſervations of a general nature are communicated. Though theſe are neither

important,

important, nor calculated to do good or evil to any one, the Society have been pleaſed to conſider them as hoſtile to the intereſt of the tenants alluded to, never reflecting, that the ſame things have been ſaid a hundred times before, without producing the ſmalleſt diſadvantage to thoſe immediately concerned. In fact, the firſt ſentence of the paragraph (and this ſentence is the only part of the paragraph which relates to the Baldoon tenants) is of an approbatory nature. The tenants are therein declared to 'have made vaſt exertions in ploughing and ſowing,' which exertions they certainly were called by every motive to make; and in the latter part of the ſentence, it is added, that 'moderation in their mode of proceeding ſhould not be expected to anſwer the purpoſe;' the preciſe meaning of which is, that having taken farms at higher rents than their neighbours, more animated management has been carried into execution. This is the light in which we viewed the paſſage when it went to preſs, and though we conſidered our reporter as indulging a little harmleſs levity, yet, for the ſake of variety, (a quality not eaſily introduced into an agricultural report), we allowed the paragraph to paſs without alteration or amendment.

Now, if the paragraph under conſideration was calculated, directly or indirectly, to injure the reſpectable individuals alluded to, what has the ſociety done to counteract that effect, or to benefit thoſe concerned? Why, they have reprinted the paragraph at full length, thereby giving it an additional circulation, and vended by retail what had only been ſold as a wholeſale commodity. They have called the attention of the public to a detached paſſage of a local report, which perhaps, in the firſt inſtance, was noticed by few people, and attached an importance to the paſſage, which, in reality, it did not merit. By acting in this way, the Society have not evidenced much wiſdom and ſagacity, nor has their conduct diſplayed a larger portion of conſiſtency and judgment, though reſpect for its members reſtrains us from inſiſting on theſe matters. We cannot however avoid noticing, that while the Society cenſure us with aſperity for inſerting the paragraph alluded to, they, in the ſame breath, requeſt us to publiſh reſolutions ten times more libellous than any part of the paſſage animadverted upon.

After all, it is highly probable, that regard to the Baldoon tenants was not the ſole cauſe which induced the Society, at this time, to come before the public; for we underſtand, that the latter part of the paragraph was by them viewed as moſt objectionable. Now, the true meaning of this paſſage is preciſely the ſame with that of the adage which Solomon pronounced many years ago, namely, that 'the pitcher goes often to the well, but is broken at laſt;' for the author does no more than infer, that rent having

having reached to a very high pitch, there is great chance of its taking a retrograde courſe,—an idea quite common among farmers at all times. But as the Society are ſo touchy on the value of land, why don't they call our correſpondent the *Galloway Farmer* before them, he having undoubtedly done more to leſſen the value of land in Wigtonſhire than our reporter? Our reporter may be conſidered as only a dealer in ſmall wares, whereas the Galloway Farmer deals upon a great ſcale. The one confines his obſervations to the poſſeſſors of a trifling portion of ground, while the other takes in the whole diſtrict, and, if correct, proves that the worth of land in Wigtonſhire is much leſs than in other diſtricts. With ſubmiſſion, we recommend this matter to the conſideration of Mr THOMAS HANNAY, who bore ſuch an active hand when the reſolutions were formed; and charitably preſume, that through his endeavours, the Galloway Farmer may be traced out, and receive from the Society his merited reward. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Dr Keith on the Experiments to ascertain the value of English and Scotch Barley and Bigg, when malted.

SIR,

As I consider your work as the most valuable periodical paper that has appeared in this kingdom on the subject of agriculture, I beg leave to send you two papers on the subject of the experiments for ascertaining the comparative values of malt made from barley and from Scotch bigg, which were conducted at Edinburgh by Drs Hope, Coventry, and Thomson. The first is a short paper, drawn up for the sake of those who cannot attend to a tedious discussion, which I hope you will be able to insert in your Magazine for August. The second is much longer, and contains my sentiments on the subject of these experiments, in answer to a request made to me by the county of Aberdeen, at their general annual meeting at Michaelmas last. If you cannot insert the latter in the Magazine for August, it can be delayed till November. I am, Sir,

Your most obedient humble servant, GEO. SKENE KEITH.

Principal Errors or Defects in the late Experiments on different kinds of Malt.

These are of two kinds, *viz.* 1*st*, Those for which the conductors are not responsible; and, 2*d*, Those for which they are responsible, whether committed by themselves, or by the inferior operators under their direction.

F... The errors or defects for which the conductors of these ... are not responsible.

One

One of these was beyond the power of any man to prevent. It was occasioned by the peculiar season of 1804. The others could easily have been prevented.

1. The barley of England, in 1804, was, in point of quality, considerably below its average value; while the barley of Scotland was much above its usual weight and fineness, (probably 10 *per cent.* better than usual), and while Scotch bigg was in a still higher degree, at least 15 *per cent.*, better than its average from century to century. No man could have prevented this; and no calculations should be founded upon what may never again happen. But,

2. Owing to the improper mode of selecting specimens, where the *London corn factors* were left both to *judge* the quality, and *fix the price* of the barley, and where no small bushel appears to have been used for ascertaining the weight, nor any other method taken to discover the quality of the grain when purchased, the English barley used in these experiments, was not a fair specimen of the barley of England, even in 1804, but was considerably below what could have been obtained from the farmers of Norfolk, and of the other barley-raising counties.

3. Owing to a similar mode of purchasing barley in Scotland from corn merchants instead of farmers, and to there being no barley purchased except in seven counties, where it was excellent, the specimens selected were considerably better than the average of Scotch barley in 1804, as very little barley was bought except in those districts where it is usually of a good quality.

4. Owing to the peculiar mode of purchasing Scotch bigg from the farmers, (only in the straw or rick), and to the particular instructions given to the persons who conducted these purchases, or at least owing to the interpretation which they put on their orders from the Board of Excise, very little bigg of inferior quality was purchased; and some of this, though bought as 3*d* quality, was afterwards rejected.

5. No proper distinction between the qualities of grain was made, either before or at the time of purchasing it. Barley was bought, either as 1*st*, 2*d*, or 3*d* quality, according as the corn factor or corn merchant chose to call it by any of those names, and without any previous examination. Hence, the weightiest barley of England, employed in these experiments (51.937 *per* bushel), was bought as 3*d* quality; while very light barley (only 49.877), is marked as 1*st* English barley. Hence also, the weightiest Scotch barley in the table of raw grain (52.265), is marked as 2*d* quality, while barley nearly three pounds lighter (only 49.312 pounds) is called 1*st* quality. The third is frequently better than the second, and sometimes better than the first. This is a fruitful source of error.—The learned gentlemen

men who conducted these experiments, are not to blame for those errors or defects, which existed previously to the grain being delivered to them; and it is but candid to add, that many of those which follow, were unintentional, or done by the inferior operators, and unknown to the learned gentlemen, till this paper was communicated to them.

Secondly. Errors or defects for which the conductors of the experiments are responsible.

1. No inventory was taken, when the grain was delivered, of the particular quantities received, either by measure corrected by weight, or by weight corrected by measure; and, indeed, nothing appears to have been done to ascertain either the qualities or the quantities of the different kinds, till any one particular kind came to be used. The very first thing that ought to have been done, was to take an account of stock; and to weigh, measure, and arrange the whole, by giving them new names when bought under false denominations; and distributing them into proper classes, before they were taken off the pavement of the warehouse; to number each sack, and record its contents. This was the more necessary, as so little attention had been paid to the discriminating of the qualities when the grain was purchased. And if this had been done at first, every subsequent change could have been marked.

2. An account of the disposal of every quantity should have been taken and published, for shewing the decrease of measure and increase of weight, as well as the produce of every parcel, when it was actually used. The report gives an account of the disposal of only three-fifths of what was purchased. The whole ought to have been stated in the report, however concisely; and the number of unsuccessful experiments would have been known, which would have given more credit to those which were successful. But what is of more consequence, if we may judge from the inaccuracy of several of the calculations which are published, the results would have been materially different.

3. The weights of grain, in the general table of raw grain, do not nearly correspond with the average weights of the counties of which any account appears in the report. English barley is said to be one-tenth of a pound *per* bushel more weighty than Scotch barley, on the average of the *whole kinds*. It is in fact, three-tenths of a pound less. This is four-tenths of an error, or *per cent.* of difference of real value.

4. The weight *per* bushel of grain malted, does not correspond with what of this grain was afterwards brewed, still less with that of the raw grain distilled. Instead of brewing only a ... of each quantity, and leaving the rest for distillation; in some

some cases the whole is brewed, and in others very little or none of several parcels of the malted grain is used in brewing.

5. The original weight of grain before it was put into the steep, and its weight after its swimmings were skimmed off, were necessarily different. But when the grain was put through the fanners to prepare it for distillation, and to make it, as nearly as possible, of the same weight with what the same kind of grain was when the light corn or swimmings in the steep were skimmed off, a most unaccountable alteration took place. Both Scotch and English barley became lighter than they were at first; and Scotch bigg not only became heavier than it was originally, but it was dressed by the inferior operators to a high pitch, and became considerably weightier than what the same kind of grain was when its swimmings were taken off. Therefore, either inferior barley was used as raw grain in distillation, or some of the weightiest was kept out after passing through the fanners. And taking into account both the increase of weight and the decrease of measure, the raw grain of bigg used in distilling was at least 8 *per cent.* of more real value, than what was put into the steep for malting; and the English and Scotch barley, which, after lying 6 months, and being put through the fanners, was lighter than at first, must have been 4 *per cent.* worse than what was malted. In short the values of grain used in malting, brewing and distilling, are all different.

6. The average weight of a bushel of malt in the maltings, brewings, distillations of raw grain, and distillations of pure malt, is different in all these cases, and in the last is very considerable. Bigg malt brewed for ale, for example, is 36.492; distilled with raw grain 39.667; and distilled alone 40½ pounds *per* bushel.

7. The proportion of difference in that weight, in every one of the above cases varies considerably, independently of what the malt gained by keeping, and in a way that seems very incorrect and unaccountable.

8. The quantity of grain in a bushel of malt, and the weight *per* bushel of the malt used in brewing, differs very considerably from what is given as the same kind of malt in distilling from raw grain; and still farther from what is given under the same denomination in the distilling of pure malt, where the malt is from 2 to 5 *per cent.* better than what was used with raw grain, and from 5 to 10 *per cent.* better than what was used in brewing.

9. The quantity of grain in a bushel of malt, not only varies in a very irregular manner in the malting process; but the same proportion of grain in a bushel of malt has not been kept in the subsequent

subsequent processes. And as Dr Hope makes no allowance for this, all his calculations of the value of raw grain or of malt are erroneous.

10. The method adopted of calculating averages from unequal numbers in the lists of 1*st*, 2*d*, and 3*d*, qualities, and then dividing the sum of these averages by 3, is extremely inaccurate, and leads to false results; yet it is uniformly adopted in this report. The only accurate method of taking these averages, is to add the whole sums in the lists of 1*st*, 2*d*, and 3*d* qualities, into one general sum, and to divide this by the number of parcels of each kind of grain, which was the subject of the calculation. Owing to the erroneous method of calculating averages, the average weight of raw grain in the 1*st* tables, the average weight *per* bushel of the swimmings, the average weight and values of the malt made, brewed, distilled with raw grain, or distilled alone, are all very incorrect. In one case it is above 13 *per cent.*; a great error in such a report of national experiments. The method there adopted of calculating averages, would have been proper, only if there had been the same number of parcels of each kind, and also the same number under every class or description of quality; and even these, owing to the number of divisions, would have been liable to fractional errors.

There are also a multitude of errors of calculation in the brewing tables; and several of these are of considerable magnitude.

These are mathematical errors or defects, concerning which there is no room for difference of opinion. Besides these, there appear to be some others of a different nature, regarding which the conductors of these experiments may entertain sentiments directly opposite to those of this writer: and yet they are such, as a good mathematician, who was but a tolerable chemist, would have avoided.

1. The malting process appears to have been conducted extremely irregularly. Grain is steeped during all periods from 44 to 119 hours, without any good reason. The best Scotch barley, of 53.093 pounds *per* bushel, does not increase 1 *per cent.* (only $\frac{6}{10}$ *per cent.*) in the malting process. Nay Edinburgh barley of 52.164lib. *per* bushel, is made to decrease $1\frac{4}{10}$ in the 100, or to produce only $98\frac{6}{10}$ of malt from 100 bushels of grain; and Fife barley of 49.744lib., is forced to decrease from 100 of grain to 91.52 of malt, (probably both by overmalting and by excessive drying), while English barley, almost exactly of the same weight, is made to increase $11\frac{2}{10}$ *per cent.* And the worst English barley in the malting tables (only 47.663lib.) is made to increase [illegible].55 *per cent.*; and even of the worst bigg, one parcel of only [illegible] and another of nearly $44\frac{1}{4}$lib.

44½lib. *decreases* 5½ *per cent.* These irregularities destroy all confidence in the maltings, and show that the maltster was left to his own caprice very frequently.

2. In the brewings both for ale and spirits, from 5 to 10 *per cent.* more water is in general poured upon the malt from bigg than on the malt from barley; whereas the very reverse should have been done, if both were to be impartially searched, and equally diluted. Hence barley malted yields much less than it ought to have produced, compared with malt from bigg.

3. In brewing for distillation, the mixture of raw grain and malt, which is weightier, less apt to ferment, and less easy to attenuate than pure malt, should have got ⅛ part more water than the other did to dilute it thoroughly. The very reverse was done to barley and malt especially; for the bigg generally got more water, and attenuated better. Hence we have bad fermentations, and a false view of the value of barley.

4. In the brewing processes, too great heats of water appear to be used in 1*st* and 2*d* maskings, by which means the grain and malt of barley, are not searched properly, nor yield so much extract as if the heat had been more moderate at first, and carried very high afterwards; yet this method would search bigg malt better, as the grain is smaller sized, but still it was improper.

5. In attempting to form a rule for ascertaining the quantity of extract which was not decomposed, or of the value of wash which appeared not to be attenuated, (by the simple operation of expelling the spirit and filling up with water to the same height), the conductors of these experiments forgot to make allowances for the mutual penetration of the extract, water, and alcohol, which occupy much less space when mixed, than if placed above each other; and hence, all their reasonings are false, and all their calculations founded in this rule are erroneous, and, in many cases, the error is very considerable.

6. In attempting to prove that equal attenuations of wash of a given strength, produce always the same quantity of spirit, Dr Hope has given us an affirmation in the margin, and two questions in the text, which are all at variance with one another; and in support of his opinion has produced a table, which refutes, by mathematical evidence, the very point which he meant to establish by it, *viz.* that the extract of bigg malt, *cæteris paribus*, was equal to that of barley, and that of inferior grain as far as decomposed, yielded as much spirits as that of the best grain.

7. The attempting to prove the relative qualities of malt, by distilling a mixture of two parts of raw grain to one of malt, was doing injustice to the writer of this paper, whose experi-

ments

ments were made on malt only, and also to the committee of the House of Commons, who ordered the account of his experiments, given in at their desire, to be annexed to their report. And it was also going beyond the orders of the Lords of the Treasury to the Board of Excise, by which they were expressly limited to *malt* only. At the same time it must be observed, that this attempt could not be successful, nor indeed could throw any light whatever on the comparative value of malt; but from the unequal attenuation of raw grain, (in these experiments rendered still more unequal from using disproportioned quantities of water), compared to the more perfect fermentations, and both the greater dilution, and greater attenuations of pure malt, it could give only a false result, founded on an imperfect analogy.

Lastly, All the calculations made with regard to the produce of spirits, are erroneous; from the disproportioned quantities of water, the generally imperfect fermentations, the unequal quantities of grain in a bushel of malt, or of malt and raw grain, the difference in the value of the malt, as well as of the grain used in brewing for ale, compared to that in brewing for raw-grain distillation, or pure malt spirits. If all these things be taken into the account, and properly calculated, the malt from bigg, even in 1804, will be found nearly 25 *per cent.*, instead of 8 or 14 *per cent.*, inferior to that of barley.

FOR THE FARMER'S MAGAZINE.

Letters from a Young Farmer to his Father.—Class III.

July 28.—Since my laſt, a material change of weather has taken place, which occaſioned much poſitive loſs in the firſt inſtance, and a great deal of additional labour afterwards. It is under ſuch circumſtances that the judgment and activity of the farmer comes to be moſt completely aſcertained; becauſe the derangement of his uſual plans throws every branch of work out of ſhape, and cauſes a reſort to meaſures of expediency or of a temporary nature. In ſuch a ſituation Mr Jamieſon ſhines conſpicuouſly. His mind ſeems ſtored with reſources for every emergency, and the difficulty of the caſe appears to give increaſed ſtrength to his natural powers. He ſhapes his conduct to the circumſtances under which he is placed, conſtantly preſerving the greateſt order and regularity.

Laſt week a violent and continued rain for twenty-four hours occurred, which, to a certain extent, floated the fallow field, wetted the hay ricks, ſtopped the thinning and cleaning of turnips, and lodged at leaſt one half of the corn crops on the farm. With ſuch

ſuch a number of people, many farmers would have been thrown into utter confuſion, or at leaſt one half of thoſe below them would have remained idle, while others would not have been much more profitably employed. Not ſo with Mr Jamieſon; for the rainy day was as throng a one as ever I ſaw ſince I came here. The ſeveral inventories were examined, and deficiencies noted down with the greateſt accuracy. Two pair of fanners were ſet to work in dreſſing of corn. The lofts were ſweeped, duſted and cleaned; in ſhort every one was ſedulouſly employed. When the rain ceaſed, my whole *corps* were inſtantly deſpatched to the fallow and turnip fields, and expreſs orders were given me not to ſuffer a drop of water to ſtand on any of them; of courſe I had not a dry foot while in the field, but fortunately was not the worſe of this treatment, having taken care to ſhift regularly after working hours. When thus employed, Elliot and his ploughmen were buſy in removing dung from the farm-yard, and middening it in a regular manner on an adjoining field of graſs-land, where it is to be uſed next winter; and as two hundred bolls of wheat had been lately ſold, Mr Jamieſon took this opportunity of delivering it to the merchant. Even Howard and his herds were not idle; for, as ſeveral markets were held at the time, he and they were ſeldom at home at this troubleſome period. The thraſhing machine was likewiſe ſo buſily employed after the weather ſettled that our ſtack-yard has become nearly empty.

Every thing ſeems now to be reſtored to order except the hay, which will give us a little trouble before it can be ſafely ſtacked. Mr Jamieſon ſays it has received damage which cannot be cured, and that I will ſoon ſee the extent of injury done to hay, by a fall of rain, while in the cock. He adds, that it is much leſs hurt by wetneſs during the early ſtages of the winning proceſs than when in the cock; becauſe the natural fermentation which neceſſarily takes place is then reinforced by artificial auxiliaries, conſequently that a degree of putridity enſues, inevitably injurious to the article. Fairbairn has returned to the turnip field; and the young plants being all thinned and ſet out, he is going over them a ſecond time, correcting former errors and deſtroying every weed that has recently vegetated.

Auguſt 4th.—The hay is now ſafely ſtacked, though a good deal of work was required before we got it into ſuch a condition as to ſatisfy Mr Jamieſon. Three days ago, when fine ſunny weather and gentle wind prevailed, our united ſtrength was employed to take down the cocks and expoſe the wet parts to their beneficial influence; after which the whole was recocked, great care being taken to mix the external and internal parts together, ſo as the

quality might be equal, and any moiſture remaining in the damaged parts abſorbed by what was in good condition. It ſtood for the night in theſe new made cocks, but next day promiſing good weather the carts were ſet to work about nine o'clock, and in that and the following day the whole was got into the ſtack-yard. It is put up in two ſtacks, each containing about five thouſand Scotch ſtones, or fifty-five Engliſh loads. The charge of ſuperintending the loading of the carts was committed to me, and I had full proofs of the truth of Mr Jamieſon's previous opinion reſpecting the damage; thoſe parts of the cock that were wetted, though made perfectly dry, breaking with the ſlighteſt touch, and appearing altogether devoid of ſubſtance. Mr Jamieſon ſays the damage will not be ſo apparent after the ſtack-ſweat has enſued, though perhaps he means that the partial damage, being thus transferred to the whole ſtack, will not be ſo diſcernible as when confined to a certain portion of it. The ſtacks are to be immediately combed down, completely covered with ſtraw and hard roped, ſo as they may be ſecured from the ſtorms of winter. I obſerved that where clover was moſt plentiful, the hay had ſuffered moſt; and, *vice verſa*, that the cocks containing the greateſt quantity of rye-graſs were leaſt damaged. Had the cock been of clean clover, I am almoſt ſure that it would have been fit only for the dunghill.

Auguſt 10*th*.—The fallow is now dunging, and four heads of carts, or ſixteen altogether, are employed at that buſineſs. Each head requires two men to fill, and one to pull out the dung from the cart, while the carter drives the horſes regularly forward; and one man and three women ſpread the heaps laid down by each head of carts, ſo that thirty-two men and twelve women are thus employed beſides the overſeers. My poſt is at the dunghill: Elliot looks after the carts in the field, and ſees that the dung is properly drawn out, while Fairbairn manages the ſpreaders. We juſt take out ſixty loads a-day per head, or two hundred and forty loads altogether. Fifteen of thoſe loads, or thereby, are applied to an acre Scotch meaſure; and as each load, from trial, is found to contain a trifle more than one yard and a half of cubic meaſure, you may have a tolerable notion reſpecting the extent of the application. In this way we dung about ſixteen acres per day, ſo that in little more than ſix days the whole hundred acres of fallow will be gone over. Mr Jamieſon is very exact about the ſpreading, aſſerting that the benefit of the application depends in a great meaſure upon the accuracy with which this proceſs is executed; or, more plainly ſpeaking, that fifteen loads, well ſpread, are of as much uſe as twenty loads imperfectly ſeparated and divided.

The turnip fields are now completely finiſhed off, and preſent

a notable proſpect to the amateurs of good huſbandry, having very few blanks, and containing ſcarcely a ſingle weed. The ruta baga ſeemed ſhy of growing for a long time; and, though now more forward, ſtill preſents more naked ſoil than the yellow and white turnip. The horſe, or yam potatoes, ſhow a ſtrong foliage, and perhaps will ultimately be found to return as much root as the ruta baga. All our corn fields are looking well, and ſome of them are holding out ſigns for the ſickle, eſpecially the early oats and firſt ſown barley. Mr Jamieſon has intimated that I am to aſſiſt in the field; and given me warning, that, to overſee there, is a poſt of no little trouble. He has gone the length of declaring, that the corn farmer muſt be a ſlave during the harveſt quarter if he wiſhes his affairs rightly managed; ſo I eaſily underſtand, if the maſter is a ſlave, that his deputies cannot be characterized as filling a much higher ſtation. I ſhall, however, endeavour to do my duty, truſting that the after advantage will compenſate the expenſe at which it muſt be gained. Every principle connected with honour and intereſt call for exertion on my ſide,—eſpecially as Mr Jamieſon has never ceaſed to treat me with urbanity, and more like a ſon than one ſent to learn huſbandry under his inſpection and direction.

Auguſt 20th.—Harveſt has partially commenced, though, not having as yet drawn out our whole ſtrength, Fairbairn has only been employed in the management. Next week that important branch of rural economy will be undertaken in earneſt, when Howard and I are to be called into action. Elliot is reſerved for his horſemen, who, I underſtand, are rarely taken to the field unleſs there is a deficiency of hands. At this time he is throng ploughing down the dung put on the fallow field, which works in a capital ſtyle; and on this furrow it is meant to ſow the wheat ſeed about the end of September, providing a freſh growth of weeds does not appear before that period. The ſtack-yard was lately emptied and cleared for the new crop. My ſquad are making ſtraw ropes for tying down the thatch uſed in covering the ſtacks, and every thing is arranging as faſt as poſſible, ſo as interruptions may be avoided in the great work before us.

September 2.—The past week has been a busy one; and I seize upon a leisure hour, allowed by a heavy shower falling, to acquaint you of our proceedings. On Monday morning, our forces were mustered for harvest work, and were divided into twelve bands of twelve shearers, and two bandsters each, four of which were committed to the charge of Fairbairn, the like number to me, and the remainder to Howard our head shepherd. The ranking or sorting of the people was done with expedition by Mr Jamieson, who seems quite up to a matter of that nature; and

though half an hour or thereby might be lost before the ranking was completed, yet all that hurry and confusion which, without it, would inevitably have ensued, were altogether kept clear of, and the whole regiment entered to work at once upon a horn being sounded by Fairbairn, who is first in command below Mr Jamieson. The arrangement was made in this manner.—Mr Jamieson having ascertained his numbers, selected twelve of those he considered to be the best shearers, and provided them with two able bandsters for tying and stooking the corn; ordered Fairbairn off with these, and to place them on the left or open side of the field, four shearers upon each ridge, with their bandsters behind them. The second, third and fourth bands followed in their course, a ticket being given to each bandster mentioning the band to which he belonged. When the fifth band was formed, I marched at their head, and placed them on their respective ridges, and so on, as the sixth, seventh and eighth band arrived. Howard came with the ninth, and arranged them in like way, and Mr Jamieson followed with the rear guard. After riding across the field, and being satisfied that all were rightly arranged, he halted in the centre of Fairbairn's bands; and calling *attention*, he stated, in a few words, that these people were committed to his management, and that full power was delegated to him to do every thing which, as a master, he could do himself; that it was his desire to have the corn clean and low cut; and that while sufficient time was allowed to execute the work, idleness was on no account to be permitted. He then came to my station, and repeated these orders, and concluded with the same in the centre of Howard's division. After this, upon a sign being given, Fairbairn sounded his horn, and immediately the whole body fell to work. The total number were 144 shearers, and 24 bandsters. Three fourths of the former are women, who, in fact, are our neatest cutters. The corn of each band is brought into the middle ridge, and stooked there; a measure which Mr Jamieson says forwards the loading of the carts considerably. Indeed, independent of this consideration, the less compass that corn can, in the first instance, be put into, so much the more will the stubble be kept clean. Every bandster is directed to draw the bottoms of the sheaves, and to gather up any heads which drop out when he is tying them; so that the quantity left is very trifling.

We had a good deal of drilling the first day, and not a few were dismissed the service as unqualified. These were constantly replaced from a supplementary corps which remained at home, and, before night, our discipline was tolerably perfect. Mr Jamieson, who commanded in chief, when he noticed any one not working to his mind, always addressed such in a calm but steady manner;

manner; explained how he wished his work performed; and requested, if they were incapable of doing what he required, that they would give up without further trouble. About a dozen left us in the course of the first day, who were always paid for the time they had wrought, but no more. The hours here are from sun to sun, with an hour for breakfast, and the like time for dinner. Twenty minutes rest are also allowed, both in forenoon and afternoon. The victuals are brought to the field in three carts, one for each division; and the bandsters of the different bands act as distributors, after the portions are measured out or set apart for each band by the person who drives the cart. The breakfast consists of oat-meal pottage and milk; at dinner, bread and beer are given; and for supper, the like allowance as at breakfast. Fairbairn thinks that it has taken a day of six shearers to cut an acre of wheat; and if so, twenty-five acres have been cut each day. I suppose he is not far from the mark; for we have worked four days and a half, and done little more than cut down the fallow break of one hundred acres. The field presents a fine sight, as it is wholly in stooks of twelve standing sheaves, with two for hoodings or covering the top. A man goes regularly through the field to set up such sheaves as may have fallen down; but should the weather prove dry, it will be carted to the stack-yard in a day or two. The oats and barley cut last week, under Fairbairn's inspection, will also then be ready. The barley lay untied for three days, which was of great benefit in the winning of it. When tied up, it seemed perfectly dry; but Mr Jamieson says he is always apprehensive of barley heating in the stack, as the softness of the straw allows a degree of compression apt to be followed by a heat dangerous to the grain. I understand it is customary with him to examine every field before the carts are sent to bring any home; and that he is particularly careful to carry none till completely winned. Indeed, when stacks so large as those I saw last year are made, the greatest attention must be necessary, otherwise heating, particularly of barley and beans, could not be avoided. This attention is too often disregarded, many people thinking they ought always to carry when their neighbours are so employed, without reflecting that the winning process is regulated, not only by the ripeness and cleanness of the crop when cut down, but also by situation and size of sheaves. A small sheaf wins in half the time that is called for by a large one, and dries much faster after being completely wetted. All these circumstances should be considered by the farmer before he carries; and on no account whatever should a previous personal examination be omitted. To spoil corn in the yard is a most disgraceful affair to the farmer; though, disgrace-

ful as it is, perhaps it happens oftener than is known. Mr Jamieson, however, assures me, that it is now much less frequent in the country than formerly, when the crops were fouler in consequence of the imperfect rotations then practised; also, that the size of sheaves is of late greatly diminished, which permits the winning process to go more speedily and equally forward.

Elliot and his ploughs are seed-furrowing the fallow field, and will be well through with it by the time that the leading of corn commences. The ridge is neatly gathered up, great care being used not to raise it too high in the middle. The horses are supported on green tares, which are in full pod, and appear to be nourishing food. Mr Jamieson says, no kind of food is better in dry weather, especially if free from rottenness at the root. They are all tied up in bunches of the like size as those of clover; only, I observe, that each horse gets three per day, instead of two of clover; owing, I presume, to the latter being generally more stuffing in the stomach, or, in other words, not so watery and digestible.

September 10.—Our field of shearers was this week augmented by four fresh bands, or 48 additional shearers, who were put under the direction of one of my veterans, often employed in former times when extra hands were brought to the field; so we now cut down a great breadth daily, though the like care and attention are bestowed as at the outset. To save time and avoid confusion, each grieve or steward cuts out and enters the four bands or twelve ridges entrusted to him; and I am now so well acquainted with my troops, that I can place all of them in their proper station, without the smallest difficulty. As we pay weekly such of our hands as leave us on Saturday, a slight drilling becomes necessary on the Monday morning. We go on very smoothly, and keep regular hours. Elliot rings the bell half an hour before sun-rise to prepare; and again, at the first peep of that luminary, when all must march without further ceremony. We have had a few wet, or rather dewy mornings; but, as it was dry above head, Mr Jamieson, at those times, ordered us to proceed with the work, and to leave the sheaves unbound, or in the state technically called *broad-band*. A detachment was always selected in the course of the day, or when the corn was sufficiently dry, for tying up this broad-band corn; and Howard generally attended those so employed, Fairnairn and I taking charge conjunctly in his absence. Mr Jamieson has been less with us this week than last one, and more with Elliot, who was busily engaged in driving home corn. Three loads of carts, four in each, have driven for several days, and a considerable number of tall, well-built stacks, have been put up, while a set of hands has been employed since the first day in covering them, which operation is here executed very neatly in the dam-

dam-board or cross-roping way. About five acres of wheat were thrashed last week, so as good fresh straw might be got for covering;—our summer thrashed straw being too much broken by the machine for resisting rain. This new straw was carefully drawn under Elliot's inspection, and makes excellent thatch. The wheat thrashed has been laid thin on the granary floor, and orders given to turn it daily, till it comes into a keepable state. Being constantly in the field, I have had slight opportunity of personally witnessing the building of the stacks, or the management exercised; but I learn, that a man stands on the stack, and forks the sheaves to the builder, till the stack gets tolerably high, when a kind of opening is left for him to stand, and two stack headers, as they are called, become necessary. The stacks, to be sure, are of great height, and require extra help to complete them; otherwise, I am confident Mr Jamieson, who is perfectly up to every thing of that nature, would not give such assistance.

September 19.—A good deal of rain has fallen this week, which retarded cutting, and stopped carrying altogether. The first object was to keep all the cut corn a-foot, and to complete the covering of what was carried. Respecting these matters, Mr Jamieson is particularly careful. When the rains ceased, we cut oats of the late varieties, which were all gaited; in other words, the sheaves were set up single, with bands loose around them, and pulled near to the top, attention being paid to draw loose heads from the bottom, so as sprouting might be prevented. The same number of hands have been employed as last week; and, should we be favoured with good weather, the cutting process will likely be finished in eight or ten days. Elliot has completed seed-furrowing the fallow break, and is now entered upon the wheat stubbles, though, as the weather seems now settled, he will return to the work of carrying with all despatch. Twenty stacks of wheat, oats and barley, are put up, all of equal size, and better built than any I have hitherto observed.

September 28.—Shearing is now over here, though, as part of the beans are still to tie, and a good deal of barley and oats to be carried, we will be very busy for a week or two. All the wheat is stacked; what was sown in spring after turnips, is inferior in bulk to the autumn and winter fields, and I also thought it lighter upon the hand. The grain, however, is good, being well harvested, and will prove of greater value than the barley sown upon the same field; which reminded me of the prediction offered by Elliot at seed-time, as mentioned in a former letter. The barley after beans is excellent, and, according to my views, may be 20 *per cent.* in extent of measure, above that on the turnip field, though I must acknowledge that the latter is of superior quality, and worth more to the manufacturer.

October 12.—Harvest is now finished with us, the whole crop being safely deposited in the yard. I mentioned, in a former letter, that nine hundred acres of the different kinds of grain were sown upon this farm, the produce whereof, except what was thrashed from the field, is secured or put up in ninety-six large stacks, all of them nearly of equal size, and affording a notable sight to the beholder, if he is an amateur of rural science. The whole are completely covered for the winter, a measure which engages Mr Jamieson's notice in a particular manner; he alleging, that a slovenly managed stack-yard furnishes sure proof, that every other branch of farm management is carelessly conducted. The first built stacks have all been tied down a second time, and I understand that a repetition of this operation is continued till the stacks are fully compressed, when it becomes unnecessary, unless a breach is made by a storm of wind, which is immediately repaired. The business of a farmer has been often supposed to be one within the reach of every blockhead; but I am more and more convinced, that, to carry it on properly, a wise head is not only required, but also a steady hand in the administration of the several duties which appertain to the occupation.

The fallow field was last week sown with wheat, at the rate of ten pecks per Scotch acre; and the seed was carefully pickled or moistened with urine, exactly in the like way as done with what was sown in the spring. There was not a blacked or smutted head of wheat to be seen of last crop, which almost satisfies me that pickling is a radical cure or preventive for that abominable disorder. I remember one day before harvest, when some gentlemen from a distant part of the country were on a visit to Mr Jamieson, that, one of them having expatiated, at considerable length, concerning their district being exposed to smut from a particularity of soil, Mr Jamieson took him up, and offered to wager five guineas, that a single smutted head would not be got amongst his fields.—Done, replies the gentleman; for I never saw a wheat field in my life but what was less or more smutted. The gentleman then proceeded to examine the field with the greatest attention; but, after an examination of several hours, was obliged to declare, that the soil of Mr Jamieson's farm certainly differed from that of every one he had hitherto known, otherwise it could not have escaped that baneful malady. No, says Mr Jamieson; my soil is the same with other people's; but perhaps greater exertion is bestowed to avoid an evil, which assuredly is too prevalent, and which proceeds entirely from negligence and inattention.

The winter stock of cattle and sheep is now brought home, Howard having been at several markets to procure them. One hundred head of cattle are provided for the straw yards, and these - - presently ranging the stubbles. Howard tells me, they will not

be

be put upon straw so long as the weather continues dry, and that a few turnips will be given them after Candlemass, to bring their blood into good order before the grass season arrives. Twenty score of ewes are also provided; and this branch of stock is considered by Mr Jamieson as highly profitable, though he acknowleges that, without cattle, he could not convert his straw into dung. About forty fine oxen, purchased at the summer markets, and grazed since their arrival on the pasture fields, are intended to be fed at the stake on turnips; but, as these matters are altogether in Howard's department, I can only speak of them in a transient manner.

Last evening Mr Jamieson gave an entertainment to his servants of every description, on account of the finishing of harvest. He was pleased to take the head servants to the parlour, with his own family, which certainly was paying us due attention; but, after supper was over, he desired us to follow him to the large mill barn, where the other servants were feasted; and, taking a glass in his hand, when we arrived there, desiring us to do the same, he addressed the numerous assembled body in the following terms. 'My lads, I drink health and happiness to each of you, and to your several wives and families.—May Providence bless you all—may you be spared for many harvests, and enabled to perform your respective duties with the like fidelity as uniformly displayed in the one, the conclusion of which we are now solemnizing.'

In this kind and benevolent manner does this good man constantly behave to those below him, thereby attaching them to his interest more effectually than can be accomplished by the hard or austere master. Such may procure obedience when present; but the moment that his back is turned, the ties of duty are instantly relaxed. The study of human nature is a science followed by few people; but I am convinced that no branch of knowledge ought to be cultivated with more sedulity. Without some degree of perfection in this science, none can act aright in their passage through life,—none can sufficiently discharge the duties which appertain to their respective stations,—and none can enjoy true felicity, or possess real contentment.

(To be continued.)

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Sir George MacKenzie, Bart. on the Distilleries of the Lowlands and Highlands.

SIR,

I AM sorry that we have a farmer among us, who seems to delight in an opportunity of exposing our faults. Fortunately, the letter in your last Number, commenting on the Ross-shire resolutions,

solutions, betrays so much ignorance of the subject, that we heritors need not be much alarmed for the consequences of his ill-judged attempt to show his superiority in knowledge over all the wise heads of the county. I am not at all disposed to enter into war with a person like him; but, in case a battle should ensue, I beg leave to form a few outworks. I will then have no occasion to fight, until my enemy drives me from my first redoubt; which I now proceed to raise.

Comparative Statement of the Duties laid on Stills in the Highlands and Lowlands; with an Estimate of Profits likely to be derived from each.

Lowland Still of 40 *Gallons Contents.*

Strength of wash, 100 gallons to produce 16 gallons of spirits—Quantity of spirits allowed to be distilled under one license, 81,000 gallons—Quantity of wash 506,200 gallons.

Duty on wash, including war duty -	L. 10,545	0	0
Duty on spirits do. - - -	4,050	0	0
Duty on still do. - - -	6,480	0	0
Duty on malt uncertain, from its being sometimes evaded; but say, for malt duty, and expenses of every kind, during one license - -	11,425	0	0
	L. 32,500	0	0
81,000 gallons of spirits, at 10s. - -	40,500	0	0
Profit - - - -	8,000	0	0

—which, if the allowance for malt duty and expenses be thought too low, will bear a further reduction, and still leave a handsome profit.

Highland Still of 40 *Gallons.*

Strength of wash, 100 gallons to produce only 10 gallons of spirits—Quantity of spirits allowed to be distilled, 3000 gallons under one license—Quantity of wash, 30,000 gallons.

Duty on wash, including war duty	L. 87	10	0	
Duty on spirits * do. -	450	0	0	
Duty on still do. -	400	0	0	
Malt duty and expenses -	600	0	0	
				L. 1537 10 0
of spirits at 10s. - - -				1500 0 0
Loss to the fair trader - -				L. 37 10 0

[illegible] fractions are not attended to The real

* duty of 3s. per gallon, and certainly a [illegible] officer that the duty is only 6d.

real loſs to the fair trader in the Highlands is much greater than here ſtated, when the malt-duty is not evaded, and when proper buildings are erected. The profit which is made by ſelling grains, or feeding cattle with them, is not ſtated againſt the Lowland diſtiller. In the Highlands, little if any profit can be made in that way. The above is a haſty calculation;—but I challenge any one to lay the act 46. Geo. III. cap. 102. before him, and make a fair calculation and a fair ſtatement of expenſes, and to maintain that we are miſtaken. As to what your correſpondent ſays of the ſtate of Roſs-ſhire and its inhabitants, moſt of it, if not all, can be proved to be falſe. But I wiſh firſt to repel the principal attack. I have ſtated the price of ſpirits at 10s. per gallon, at random. The price of Lowland ſpirits in London, while I was there laſt winter, was from 11s. to 11s. 6d. The duty annually paid in London by one houſe for Scotch ſpirits, exceeds half a million Sterling. The two caſes are ſtated, in my opinion, fairly. The expenſes of the Lowland diſtiller are ſtated high, and thoſe of the other low; and the ſtatement of expenſes is the only point in which any alteration can be made. The price of ſpirits is the ſame in both caſes; and therefore it matters not whether it be too high or too low. But in caſe your correſpondent chuſes to go to minute calculation, and to convert the price of our gallon into the Engliſh, and may not have acceſs to tables, I may mention that 1 Scotch gallon = 3.581091 Engliſh. I believe I am not far miſtaken when I ſay that 30s. per Scotch gallon would be got in the Highlands for whiſky of the legal ſtrength. I ſhall expect a reply to this in the November Number; and hope the Farmer will be candid enough to acknowledge any miſtake that he may diſcover. He ſeems to think much of himſelf, and very little of poor Highland lairds. I wiſh him much ſatisfaction in his own conceit; and am, Sir, your moſt obedient ſervant, G. S. MACKENZIE.

[Not being acquainted either with diſtilling, or the laws by which it is regulated, we ſubmitted the above paper to a reſpectable friend, intimately converſant with theſe matters, who has obligingly favoured us with the following remarks, which, as in duty bound, we lay before our readers.]

The following ſtatements reſpecting the duties payable by the Lowland and Highland diſtillers, will ſhow the errors which Sir George Mackenzie, Baronet, has fallen into when treating on that ſubject.

Duties payable in the Lowlands and Highlands of Scotland on a Still of 40 Gallons content.

In the Lowlands—

License, 108l. permanent; 54l. war - -	L. 6,480	0	0
Carry over	L. 6,480	0	0

Brought over	L. 6,480	0	0
Spirits 81,000 gallons, at the rate of 2025 gallons for each gallon still content; 8d. permanent; 4d. war - - -	4,050	0	0
Wash 490,909 gallons, equal to 16$\frac{1}{2}$ gallons of spirits for every 100 gallons of wash; 3$\frac{1}{2}$d. permanent; 1$\frac{1}{2}$d. war -	10,227	5	5
Equal to 5s. 1$\frac{1}{4}$d. *per* gallon	L. 20,757	5	5

In the Highlands.

License, 6l. 13s. 4d. permanent; 3l. 6s. 8d. war	L. 400	0	0
Spirits 3000, or 75 gallons for every gallon still content; 4d. permanent; 2d. war	75	0	0
Wash 30,000, equal to 10 gallons of spirits for every 100 gallons of wash; 1d. permanent; $\frac{1}{2}$d. war - - - - - -	187	10	0
Equal to 4s. 5d. *per* gallon	L. 662	10	0

However great the error may be which Sir George Mackenzie has fallen into in calculating the duties, they are not the only ones he has committed. Labour, for instance, can be had cheaper in the Highlands than in the Lowlands. Grain, whatever difference of opinion may exist about quality, can generally be bought at a proportionable rate as to real value, in both districts; and for the want of coal, an adequate compensation is given by Government, in requiring (but not restricting) only 75 gallons spirits for each gallon of still-room in the Highlands, (which can be accomplished easily with any sort of fuel); while the Lowland distillers *must* produce, or be charged with, 2025 gallons spirits for every gallon of still-room. Besides, the grains or offal of several distillers within the Highland line, are sold at the same rate as in the Lowlands; and to the one they are almost as valuable as to the other, if properly applied. With these advantages, the cost of spirits (exclusive of duties) cannot be estimated more in the Highlands than in the Lowlands,—nor should it be taken at so much; but, rating it at the same, the balance will be widely different from what it appears in Sir George Mackenzie's statement.

The duty on the Lowland still, &c. -	L. 20,757	5	5
Sir George Mackenzie estimates 3000 gallons of spirits made in the Highlands to cost 600*l.*, herefore, at the same rate, 81000 in the Lowlands will cost - - - - - -	16,200	0	0
Carry over	L. 36,957	5	5

Brought over	L. 36,957	5	5
In place of which, Sir George makes the 81000 gallons cost only (including duty) - -	32,500	0	0
Difference - - -	L. 4,457	5	5
The duty on the Highland still is - -	L. 662	10	0
Cost of 3000 gallons spirits admitted - -	600	0	0
	L. 1,262	10	0

From this it appears, in place of the Lowland distiller having an advantage equal to nearly 30 *per cent.* over the Highland distiller, that he pays 16 *per cent.* more duty, and is, even upon Sir George's own principle, eight and four tenths *per cent.* worse; and if the advantages in favour of the Highland distiller, resulting from the law, are taken into view, they will appear (*as they really are*) very considerable; he neither being called upon to work with rapidity, nor to make strong worts, while the Lowland distiller is necessitated to do both, at a most enormous expense on the one hand, and an almost incalculable loss of grain on the other. In fact, these losses cannot be computed at less than 10 *per cent.* against the Lowland distiller, making his situation eighteen and four tenths *per cent.*, or nearly one fifth, worse than that of the Highland distiller.

Whatever may be the situation of the Ross-shire tenantry, it seems evident, that, until they are enabled to live by their farms, and until the different statutes for preventing smuggling are enforced by the Justices of the Peace, the situation of the tenantry can neither be ameliorated, nor the baneful practice of smuggling effectually prevented. It appears also certain, that agriculture must suffer severely by the attention and labour of the peasantry being drawn from it to carry on this nefarious business, often destructive to themselves, and always hurtful to the fair trader and to the public.

[With pleasure we insert the following letter from Mr Braidwood, Manager of the Caledonian Insurance Company, because it relates to a subject of primary importance to every farmer; and reflects much honour on that opulent and liberal minded public body. The scheme devised by the Company for continuing the policies issued for insuring, at short periods, that portion of the farmer's stock contained in the stack-yard, is so accurately described by Mr Braidwood, that it is unnecessary for us to say one word in its favour, further than recommending it to the attention of our readers.]

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

AN advertisement by the Caledonian Insurance Company, relating

lating to a new method of insuring farm-stock against the risk of fire, for a period less than twelve months, will accompany your Magazine to be published in August. The object in view being congenial to the design of your work, I shall make no apology for asking your permission to give some further explanation of the plan to your numerous readers.

It has long been the practice of fire-insurance companies to issue *short-date policies* for farm stock, ships, articles of commerce, &c.; and the plan now submitted to your consideration, does not claim the merit of introducing that improvement. In all cases where such insurances are only *occasionally* required, no better means could have been devised for the security of the parties concerned. But something more was wanting for the accommodation of farmers and others, who have always on hand an extra stock *during the same period of each succeeding year.* They were put to some inconvenience by the necessity of applying for a new policy every year; and when they neglected it, perhaps only for a few days, if an accident happened, their property was uncovered, and they could have no redress.

By the plan now proposed, a farmer's extra stock is insured for six months, or any number of months that may be required; and never ceases to be covered during the same specified period, while he pays the premium and duty, precisely in the same manner as his dwelling-house, furniture, offices, and perpetual stock, remain always insured by an annual policy. The short-date policy, I shall suppose, is for six months, from Oct. 1st, 1807, to April 1st, 1808. Well; the insurance on that part of the farmer's stock ceases on the evening of the first day of April. But by the terms of the policy, and without any further transaction on his part, or on that of the insurers, it commences again on the first day of Oct. 1808, and before he has actually paid the premium and duty for the second year; fifteen days being allowed for that purpose, agreeably to the universal practice of fire-insurance companies in relation to annual policies. Nor is it possible that the person insured can lose the benefit of the policy covering his extra stock, by merely *forgetting* to pay the premium and duty;—because such payment will be demanded;—and if a delay of fifteen days should take place, he will receive a printed or written intimation, warning him of his danger. It must not, however, be understood, that fire-insurance companies are *obliged* to give such intimations;—their own interest is a sufficient motive to secure the continuance of that practice.

I am happy in being able to announce to you a plan, which appears to me calculated to suit the convenience, and to secure the property, of a class of our fellow subjects, so respectable, and so useful to the community at large, as THE FARMERS OF SCOTLAND;

LAND; and that the proposal originates with THE CALEDONIAN INSURANCE COMPANY. I am respectfully, Sir,

Your most obedient servant,

WILLIAM BRAIDWOOD.

Caledonian Fire-Office, Edinburgh, 23d July 1807.

LITERARY INTELLIGENCE.

THE following works, lately published in Edinburgh, were meant to be reviewed in this Number, had we not been prevented by an extraordinary pressure of original communications. We therefore only notice them in a cursory way, though free to say, that the merits of each entitle them to a more particular examination.

1. The first volume of *Caledonia*, or an Account Historical and Topographic of North Britain, by George Chalmers Esq. This is a work highly interesting both to the moralist and the economist, because, on the one hand, it traces society from the rudest state of barbarism to that of polished civilization, while, on the other hand, it develops the gradual progress of improvement from the period when Scotland was little better than a wilderness, containing only wild beasts, and still wilder men, to the time when it became cultivated with almost garden-like perfection. Few men are better qualified than Mr Chalmers for elucidating these matters, or executing the task undertaken. He possesses a steady judgment, not to be biassed by the highest authorities which have gone before him, and is endued with an unwearied sedulity to ascertain facts which seems to be increased in direct proportion with the maze that encompasses the subject he has undertaken to investigate. In a word, we have received so much pleasure from the perusal of this volume, that we anxiously look forward to the succeeding ones, as a source of mental gratification and delight. When finished, the work will be an honour to Scotland; because the history of any country is rarely described with so much precision as what is displayed in the present performance.

2. *The Code of Health and Longevity*, in four volumes octavo, by Sir John Sinclair, Bart. Our predilection for Sir John, and every thing which proceeds from his pen, is so well known, that we are diffident of offering an opinion on these interesting volumes. We may, however, safely state, that as health is a blessing which cannot be too highly estimated, every person must naturally be concerned in the subjects which, at this time, have occupied the honourable Baronet's attention. To us, these volumes have afforded so much information, that we shall resort to them at all times

times as a sure directory for gaining and possessing that state of health without which every worldly blessing is of no avail. It is allowed, that Sir John has already taught the farmers of the kingdom to increase their agricultural produce at the rate of 10 *per centum per annum*; and it would not be surprising were that class of the community, healthy as it is, to have an addition to their natural life, in the like proportion as is said to have taken place with their rural produce, from the enlightened and correct writings of the Honourable Baronet.

3. *A View of the Mineralogy, Agriculture, Manufactures and Fisheries of the Island of Arran*, by the Reverend Mr Headrick. This, so far as it goes, is a most useful publication; and we must express our surprise at the worthy author having made so much of a subject, confessedly a barren one. In our next Number this work shall be noticed in a particular manner.

4. *Prize Essays and Transactions of the Highland Society of Scotland*, vol. III. It has not hitherto fallen in our way to say much of this Society. Indeed, the first and second volumes of their transactions were not highly calculated to provoke our attention. Not so the volume before us; which contains a number of excellent essays, every one of them on subjects of importance, and well adapted to promote the improvement of the country. Two of these essays, viz. on the diseases of sheep, and the introduction of sheep farming into the Highlands, are particularly valuable. The volume shall be examined with precision in our next Number.

5. *The Shepherd's Guide*, by James Hogg, the Ettrick shepherd. We presume that the most of our readers have heard of Mr Hogg, both as a poet and as a shepherd; and we venture to assure them, that the satisfaction to be enjoyed from his practical works, will not be exceeded by the pleasure received from his poetical compositions. Till of late, knowledge of sheep-husbandry was entirely restricted to shepherds and others employed in the management of that useful animal; whereas, at this day, the diseases of sheep, and the remedies to counteract them, are described by Mr Hogg and other practical professionalists, in the most satisfactory manner. This volume is written in a way which must ensure success; and, what is more, the information contained is of that sterling nature as must cause it to be of great public benefit. We reserve our full opinion of the work to a future occasion, when it shall be noticed with respectful attention.

BRANCH

BRANCH II.

Agricultural Intelligence.

The weather, ſince the commencement of 1807, has gone into extremes; of courſe, the crops of the year are unequal and variable in quality, according to ſoil, ſituation, and other local circumſtances. The exceſſive wetneſs of winter, ſucceeded by ſevere black froſts, whereby the clay ſoils were mellowed in a greater degree than commonly happens, and theſe followed by heavy rains in May and June, placed the lands incumbent on a retentive bottom into ſomething like a ſtate of mortar, ſickening the plants growing on them, and effectually retarding the tillering proceſs afterwards. When in this condition a ſudden drought ſet in, which baked the ſurface into a brick conſiſtency, and prevented that improvement of the crops generally experienced when warmneſs arrives.

The light ſoils, on the contrary, were greatly benefited by the early ſummer rains, and promiſed moſt abundant crops, had not the after-drought checked their progreſs, and ſtunted them conſiderably. Under preſent circumſtances, the beſt wheats are on lands of this deſcription, and the heavieſt returns of hay have alſo been got from them. Turnips have rarely ſucceeded on any other variety of ſoil, the ſowing proceſs being long prevented on loams, and afterwards imperfectly executed in numberleſs inſtances. Theſe ſtatements will be found generally applicable to the whole iſland; though it muſt be remarked that, as a partial relief from drought was received in ſome diſtricts earlier, and to a greater extent than in others, the benefit thereby conferred will of conſequence be in direct proportion with the ſituation of the crops when moiſture was received, or, in other words, with the ſtage of growth at which they had arrived when favoured with relief. To oats, beans, turnips and graſſes, a further ſupply of rain undoubtedly would be beneficial; but it is a queſtionable circumſtance whether the crops of wheat and barley would be benefited by rain at this ſeaſon, the quality, and in ſome meaſure the quantity, of theſe grains depending upon the dryneſs and warmneſs of weather during the filling and ripening proceſſes. According to our accounts, few of the crops are to be of ordinary bulk; nor will a deficiency of this nature excite ſurpriſe, when the preceding circumſtances are ſufficiently conſidered.

Markets for grain have been tolerably ſteady through the quarter, the advance generally looked for at the date of our laſt not having taken place, owing, in ſome degree, to the great importation of American wheat and flour. Cattle and ſheep have, over the whole iſland, fallen in price conſiderably, eſpecially thoſe in a lean or half fed condition; a circumſtance which occaſions a ſuſpicion of the breeding trade having been carried further than required by the actual demand. Be this as it

may, the breeder and feeder will now be placed under more equal circumſtances than for ſeveral years paſt, the former having reaped more than his equal ſhare of profits, whilſt the gains of the latter were not greater than he derived when prices in the dead market were twenty-five per cent. inferior.

It is noticed with ſatisfaction by ſome of our reporters, that ſteps are now to be taken for obtaining relief from the ſeverity of the property-tax; and we gladly offer our mite of praiſe to the farmers of Roxburghſhire for taking the lead in ſuch a ſalutary meaſure. Unleſs their endeavours, however, are backed by their brethren in other counties, it is to be dreaded that ſucceſs will be wanting; and on that account meetings in every county are anxiouſly recommended. No man defends the ſyſtem according to which the property-tax is levied on the farming intereſt, on account of its juſtice; but many ſupport it on account of its convenience and prolifickneſs. Theſe circumſtances will cauſe the preſent mode to be retained, till a ſteady and ſtrong oppoſition appears againſt it; and in this oppoſition the landed intereſt appears to be fully as much concerned as the tenantry, becauſe the tax will eventually fall upon the landholder. It has been ſuggeſted, that a tax upon the farmer's ſtock would be a more equitable meaſure than one upon his gains and profits, eſpecially when theſe are aſcertained by a rule which applies to the ſituation of few people, and at the beſt is neceſſarily unequal, when applied to the great body of cultivators. The ſtock of a farmer is eaſily valued; therefore, were diſputes to ariſe reſpecting the tax, a reference to facts could at once be made, either by the owner or by the commiſſioners. In this way, none would be taxed unleſs they poſſeſſed property; whereas, according to the preſent mode, a farmer may be taxed at a high rate for gains and profits, notwithſtanding of his being actually a bankrupt. The ſuggeſtion deſerves conſideration, having at leaſt the merit of being agreeable to the title of the act; whereas the criterion, according to which farmers are preſently aſſeſſed, has no more connexion with the ſtate of their property, than it has with the rules of aſſeſſment operating on other claſſes of the community.

Though rather out of place, yet, at the requeſt of a reſpectable correſpondent, the following errors, which have got into the 3d volume of the Highland Society's Tranſactions, are here noticed.

In page 177, laſt line but three, for *ſtalks*, read *ſtools*.

In page 291, note, line firſt, for 'when too much done,' read 'when *not* too much done.'

Purchaſers of this volume, if they think it worth while to know the author's real meaning, are requeſted to make theſe corrections, and to draw a pen through the lower note, page 159, which the author omitted to do though intended.—being doubtful of the propriety of uſing the name of Dr R. without his conſent, and wiſhing to correct the Poa compreſſa and to inſert the Poa fluitans, which is the name of the plant in the Flora Britannica. The Poa compreſſa has a flat ſtalk, the Poa fluitans a flat ſheath. Botaniſts have given the name of Feſtuca fluitans to various plants.

At the requeſt of another correſpondent, we intimate, that the foreſt of Sleagoyle, in the diſtrict of Kintyre, Argyleſhire, containing betwixt eight and nine thouſand Scotch acres of excellent ſheep-paſture, is to be let from Whitſunday 1809, in one, two, or three farms, as may be agreed on; each of which is provided with improveable low grounds, where ſnow is little known, for wintering upon; and alſo admirably calculated for turnip huſbandry. The vicinity of the great Clyde markets, the extent and other well known advantages of theſe lands, open ſuch a wide field of improvement and profit to the experienced and enterprizing farmer, that it is our duty to recommend them to our ſouth country friends, many of whom we know eagerly deſire to find out an eligible ſituation of this kind, where they might bring into action the large ſtock of knowledge accumulated in the original ſheep diſtricts. We are informed that the lands will be ſhown by Mr Alexander Sinclair at Kilchamaig; and that offers may be given to John Campbell, Eſq. writer, Inverary, or to Robert Campbell, Eſq. writer to the ſignet, Charlotte Street, Edinburgh.

SCOTLAND.

Letter from a Gentleman who lately viſited Caithneſs, dated 20th July.

'HAVING had occaſion to be in Caithneſs for a few weeks, I was agreeably diſappointed to find it a much more improveable country than what people in your ſouthern diſtricts generally ſuppoſe. If the following obſervations ſhall appear worthy of notice, they are much at your ſervice.

'The firſt objects which arreſt the attention of a ſtranger, are the extenſive improvements carried on by Sir John Sinclair; ſome of which have been attended with ſucceſs, others have not; but, throughout the whole, there appears a generous and liberal purpoſe of improving the country and its inhabitants, unſhackled by any contracted or narrow motives, and of which the general voice bears ample teſtimony. Mr Traill's improvements, too, cannot fail to attract the notice and admiration of ſtrangers, who know the unremitting attention and exertion neceſſary to accompliſh what he has performed.

'The face of the pariſhes in the vicinity of the town of Thurſo, and along the ſea-coaſt to the town of Wick, extending into the country about ſix miles, is exactly what a farmer could wiſh, being compoſed of gently riſing grounds and alternate low meadows and lochs in which there is in general excellent marl. The ſoil of the pariſhes near Thurſo, is, in general, a clayey loam of a dark red colour, and fine in quality. The average depth of it appears to be from nine to fifteen inches; and the whole of this deſcription of ſoil, almoſt without an exception, is incumbent on an horizontal grey ſlate rock. This rock retains on its ſurface all ſpring and rain water, and of courſe forms a channel for it from top to bottom of the declivities; conſequently the outcry againſt

the wetneſs of Caithneſs, for ſix or ſeven months of the year, is univerſal; and it is a general complaint that corn crops do not exhibit much progreſs *before the nights get long*; which may be conſtrued to mean, *before the ſoil recovers its vegetative force after the deſtructive effects of ſuperabundant moiſture for the greateſt part of the year.*

'Almoſt the whole of the new fields and encloſures of Caithneſs are formed in the uſual manner, with their longeſt ſides parallel to the declivity. But it is conceived, that encloſures in that county ſhould lye quite the reverſe way, that is, with their longeſt ſides nearly at right angles to the declination. No field, it is humbly thought, ſhould be of greater breadth than 120 yards, and completely protected by an open drain on the upper ſide of the field. In lining off this drain, or upper ſide of the field, it ought particularly to be attended to, that the water ſhall run with, and not againſt the ſeam or natural declivity of the rock; and that it ſhall have a ſlope ſo ſufficient as not to encourage in the leaſt the ſtagnation of water. It might be of advantage, where there may be much water at certain ſeaſons, to face the under ſide of the drain with ſod or divot to prevent cutting. If theſe ideas are well founded, it appears adviſable, that all long fields, formed in the uſual mode, ſhould be ſubdivided by open croſs drains, as deep as the ſurface of the retentive rock or ſubſoil, at the diſtance from each other above ſtated, having a ſlope or fall from end to end of about one inch to the yard. Such drains need not be more, in the general caſe, than the width of a furrow ſpade.

'It is a general obſervation, that trees and thorn hedges do not ſucceed in Caithneſs. The climate is certainly againſt theſe, and the poſition of the rock is inimical to their roots ſearching downwards. But it is ſubmitted, that too much moiſture is equally adverſe to their growth. This laſt evil can only be guarded againſt by numerous interſecting drains. Where the ground is perfectly dry, and well fenced, it is ſuppoſed trees will ſucceed. As corroborative of this opinion, at Braal, in the pariſh of Halkirk, and at Tiſter, in the pariſh of Bower, ſome trees, conſiſting chiefly of plane and aſh, have attained a conſiderable ſize, and appear thriving. The firſt ſituation is low, the ſecond is high and unſheltered; but both are dry, from their peculiar ſituation. Thoſe at Tiſter ſtand on the very ſummit of that property, and thoſe at Braal on a dry bank of the river of Thurſo. Both of theſe places, indeed, are diſtant from the ſea-coaſt about ſix Engliſh miles. It was ſtated to me, that there are excellent thorn hedges in the pariſh of Wattin. This pariſh is alſo inland, and it is underſtood that the ſoil is dry from its ſuperior depth, or a difference in the ſubſtratum.

Winter wheat is reported not to ſucceed in Caithneſs, but ſpring wheat has been known to produce a fair crop. Mr Traill produced a recent ſample. This remark proves the extreme wetneſs of the fields in winter and ſpring; but if a plan be adopted of keeping the lands much drier than they have hitherto been, it is preſumed that both winter and ſpring wheat may be raiſed with ſucceſs after a ſummer fallow well prepared.

pared. It is in vain to attempt raiſing beans on land that has been ſocked with wet during winter. Perhaps the climate may be unfavourable to this laſt grain; but beans are raiſed in Roſsſhire, and it would be raſh to ſpeak decidedly on this ſubject without a fair experiment being made on ground well managed. At all events, I am warranted in maintaining, that, in the preſent wet ſtate of the grounds, no grain can be raiſed of that good quaility which the ſoil, with different management, ſeems capable of producing.'

Letter from Upper Annandale, 22d July.

AFTER ſome weeks of drought, which began to alarm the farmers, the late moderate and ſucceſſive rains have been moſt refreſhing. The moiſture came too late for ſome particular ſowings of turnips, and for this crop of ſown graſs; on which account, ſome turnips have riſen unequally, and the ſown graſſes are light in hay; the paſtures were alſo, in ſome inſtances, conſiderably injured, which reduced ſtill lower, the fallen prices of cattle. But with theſe exceptions, every thing is now refreſhed, and flouriſhing. Wheat, oats, and barley, promiſe a full average crop; manured meadows are excellent; flax appears better than ordinary; potatoes early ſet are inferior, but later ones are generally fine. Early Swediſh turnips ſown in May, came up unequally; but the crop in general appears well. Prices of oats 3s. to 4s. *per* buſhel, 6 of which in a boll; wheat 8s.; oatmeal 3s. *per* ſtone. Fat cattle ſell well; lean are very low. The wool market uncertain, as the buyers are timid. Good horſes enormouſly high; black faced hogs have ſold at 15s. to 18s. each.

Letter from the Diſtrict of Carrick, July 22d.

'THE firſt month of this quarter was generally very wet, and was ſucceeded by nearly a month of cold, dry, froſty winds, which checked vegetation remarkably; and even, in ſome of the fertile parts of this diſtrict of the county, threatened the worſt of conſequences. In fact, at the end of June, vegetation ſeemed almoſt ſtationary. Since about the beginning of this month, we have had ſome fine ſhowers, with an extraordinary degree of warmth, which has completely changed the complexion of the fields. Verdure is reſtored to the paſtures, and the crops which, toward the end of June, were ſcarce covering the earth, are now coming on vigorouſly, and promiſe to be tolerable. Though there does not at preſent appear to be a deficiency in any of the crops, yet if a compariſon were to be made, it is believed that it would be in favour of wheat, of which there is now a conſiderable quantity ſown. Turnips and potatoes, of which alſo great quantities are every where planted, are looking well. And ſo much progreſs has been made of late in agricultural improvement, that beautiful fields of drilled beans are frequently to be ſeen, which would not diſhonour the beſt cultivated diſtricts of Scotland. Neceſſity is ſaid to be the mother of invention, and it is applicable in the preſent caſe. This improved mode of agriculture may, in a great meaſure, be aſcribed to the increaſe of rents that is every day taking place. When land, as of late, is taken

at the rate of 3l. *per* acre, it rouſes all the energy of the tenant, and cauſes him to excite the whole of his ingenuity to be able to fulfil his engagements. And it would ſeem he is, at laſt, convinced from experience, that the new huſbandry is beſt calculated for that purpoſe.

'The price of oats and oatmeal has rather advanced during this quarter; bear and barley can ſcarce be ſold at any price; for ſome time paſt oatmeal has been at 1s. 6d. *per* peck. If by theſe means, and the preſent appearance of the ſeveral crops, the tillage farmer is encouraged to hope, a moſt diſtreſſing damp has clouded the mind of the grazier. There is almoſt a complete ſtagnation in the ſale of cattle; and any that have been ſold are at ſuch a depreciation, as muſt ſoon become ruinous. Whatever this may be owing to, whether to the decreaſe of manufactures, or to the ſtate of keeping in England, it has entirely overturned the uſual theory, that the price of corn and cattle commonly keep pace with each other. The wages of labourers, mechanics, and jobbers, continue rather upon the increaſe, which muſt always happen in an improving county that is but thinly peopled.'

Dumfrieſſhire Quarterly Report.

The weather for the laſt three months has been favourable for the purſuits of the farmer. Wheat, and early ſown barley, are now in full growth, and promiſing a good produce, having had moderate rains and fine weather while in the bloſſom; barley ſown after April was kept back by the drought, and has not yet got the better of it. Potatoes are healthy and forward; but young turnips are generally in a backward ſtate. Thoſe ſown early were in many inſtances injured by the fly, and thoſe later were kept back by the drought. They may ſtill, however, be a tolerable crop, from the favourable weather which has been of late.

The ſpring was conſidered rather unfavourable for the ſtore farmers, and there was no doubt a conſiderable loſs of lambs; but it has not had the effect to raiſe the price of the remainder, nor of young ſheep in the Engliſh markets. Though the fairs have not been more crowded than uſual, the prices are conſiderably below thoſe of laſt year; it is ſuppoſed from 10 to 15 *per cent.* Wool was expected not to undergo much alteration; but at preſent this ſeems to be a doubtful matter. At ſome of the principal fairs of this county, which were attended by many ſtaplers and farmers, no bargains were made.

The ſales of cattle have not been more favourable for the farmer; excepting aged bullocks, which went off in good condition in the ſpring for the ſouth, no other kind have paid for keeping. Year old and two year old cattle have ſold about 20 *per cent.* under the prices of laſt year. This fall will be felt heavy by the breeder; but the grazier will not feel it in the ſame degree. If he ſells cheaper, he will buy or lay in cheaper again. And to conſider fairly of his ſituation, it is believed that he requires more advantage than he has had for the two laſt years. Though the butcher market cannot be ſaid to have fallen low, it muſt be allowed that the feeder was not paid a reaſonable difference between the price he gave for lean ſtock and the ſale by him from the butcher. If, then,

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the breeder has hitherto got more for his young or lean ſtock than what could be afforded by the feeder, it is but fair that his prices ſhould be moderated, as ſeems now to be the caſe.

In this county the extent of wheat crops is yearly increaſing, there being now ſcarce a farmer in the lower diſtrict, and even in the midland one, but grows this grain leſs or more. But if the growth has increaſed, the conſumption has alſo increaſed, there being few families of any deſcription who do not uſe wheat bread. Bakers are eſtabliſhed not only in all the villages, but alſo in many remote places diſtant from towns. The ſale of wheat, however, is not dependent on theſe; what is of good quality being bought readily for the Liverpool and Lancaſter markets; though it happened well for the growers laſt year that there was an inferior market, there being a conſiderable quantity of mildewed grain, and mixed with ſmut. This laſt mentioned diſorder, however, is not ſo pernicious as formerly, now that thraſhing mills are generally introduced.

Preſent prices—Beſt Wheat, 9s.; Inferior, 7s.; Barley, 4s.; good Oats, 4s. per Wincheſter buſhel; Beef and Mutton from 5d to 6d.; Lamb from 4d. to 5d. per lib. of 16 oz.; Bacon Hams, 10s. 6d. Flitches, 8s. per ſtone of 14 lib.——*July* 23.

Banffshire Quarterly Report.

THE weather during the ſummer quarter, has, upon the whole, been hoſtile to vegetation, but, in every other reſpect, favourable to rural operations. Although frequent ſhowers were experienced towards the end of May, and through the greater part of June, yet the cold, dry, chilling winds that ſucceeded, prevented every article in the ground from receiving much benefit. This month commenced with more genial weather, and the crops of corn and graſs were thereby much relieved; but the drought having again ſet in pretty ſevere. gravels and all inferior ſoils rather preſent a ſtunted appearance: deep free loams, however, hold out ſtill, but the general proſpect does not indicate a very abundant harveſt, unleſs a great alteration ſoon take place. Another evil threatens to affect the farmer more ſeverely. Cattle, which have been the real ſupport of the county for ſeveral years, are become a drug upon his hand. By means of this branch ſucceeding hitherto, the farmer was enabled to ſupport an immenſe load of taxation, an unlooked for increaſe in the price of labour, land rent, &c. and alſo to execute conſiderable improvements, in a diſtrict where no extraordinary capital is inveſted with agriculturiſts. Some lots of high conditioned winterings, went off early to pretty good account, principally to the butcher, at about 9s. *per* ſtone ſink. But cattle in ordinary condition have had little demand as yet, thoſe marketed being ſold at 20 *per cent.* under laſt year's prices, while paſtures are ſtill overſtocked. Hay is but a light crop, many fields having been ſown down early: this article has a chance of ſelling better than for ſeveral years paſt. Turnips are not promiſing well, unleſs ſome of thoſe which were early ſown: the ſeed remained long in a dormant ſtate, and plants are making but little progreſs. Grain finds a ready ſale; Common oats 22s. *per* boll of 128 Scotch pints; oat meal, 21s. *per* boll of eight ſtone

Dutch, and in retail 16½d. *per* peck of eight pounds. Barley, as uſual, much rejected by the merchant; for which reaſon, its cultivation is every year more and more curtailed.——*23d July.*

Tweeddale Quarterly Report.

The weather was too wet in the month of May for finiſhing barley ſeed and preparing the turnip fallows in a ſufficient manner; therefore, theſe operations were imperfectly executed. On low and well improved lands, the ſeveral crops long maintained a healthy aſpect: but thoſe on high and cold ſoils never preſented a more unpromiſing appearance, many of them not covering the ſurface in the end of June. Indeed, from the coldneſs of the preceding months, every thing is three weeks later than uſual; and the drought having been very ſevere, both corn and graſs have recently ſuffered much. For ſome days paſt, a few partial ſhowers have fallen; and laſt night, along with a thunder ſtorm, a conſiderable ſupply of rain was received, which may ſtill be of great benefit to the paſtures, aftermath, turnips, and late ſown corn fields.

The hay crop, now cutting, is, on thin and cold bottomed ſoils, very light; but on thoſe of a deeper nature the return is not amiſs, though ſcarcely to be eſtimated as equal to an average. One thing may here be remarked, *viz.* the general ſcarcity of clover plants, though the ground was well planted at harveſt; and this ſcarcity is attributed to the ſevere black froſts which prevailed in the ſpring months. The turnip fields look tolerably well, though kept back by the drought, as neither caterpillars nor flies have troubled them this ſeaſon. Cattle markets have been dull for ſome time, owing to the ſcarcity of graſs increaſing the number of ſellers, while the number of purchaſers is in like manner leſſened. Sheep did not ſell well at the Linton markets, the quantity preſented exceeding the demand; ſo, of courſe, prices decreaſed. Lambs likewiſe ſold below laſt year's rates, except thoſe early ready and fit for the butcher.

Labour ſtill continues high priced, while the rent of land is not in the ſlighteſt degree abated. In fact, the farmer has to ſtruggle with many hardſhips, though none of them are more intolerable than the exaction under the property tax act. The farmers of Great Britain have uniformly ſhown a deſire to ſupport the meaſures of Government, and, in every inſtance, have met the exigency of the times with ſuch ſteadineſs and alacrity, that it is ſurpriſing they ſhould have been ſingled out from the reſt of their fellow ſubjects by this act. The general principle of aſcertaining gains and profits according to the extent of rent covenanted to be paid, is ſo manifeſtly abſurd, that it would be ſuperfluous to argue againſt it; but if abſurd as a general principle, it is ten times more abſurd when applied to individual caſes, as muſt be evident to every perſon acquainted in the ſlighteſt manner with rural economy, or with the extent of expence at which the produce of the ground is raiſed in different ſoils and ſituations.——*July 24th.*

Wigtonſhire Quarterly Report.

Though our winter and ſpring months were very vexatious, yet ſum-

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mer has, upon the whole, been favourable. May, and part of June, were moiſt, though generally cold; but, what is a curious and rather rare circumſtance, it is aſſerted, that the diſtrict called the Rhins of Galloway, was favoured with more frequent ſhowers during theſe months than the reſt of the county; and there, of courſe, vegetation came more quickly forward.

However, about three weeks of drought became general, and in many ſituations has been ſeverely felt. Turnips ſown during the moſt of this period, have brairded unequally.

Rain accompanied by thunder, came upon the 11th current; and ſince then, we have had few dry days. Thunder and lightning have been alſo very frequent. Hay ſuffers, and corn crops have already begun to lodge.

In many ſituations, particularly in cold, heavy, and mooriſh ſoils, the grub and ſuch like inſects, have depredated extenſively; yet, upon the whole, preſent appearances bid fair for a crop beyond the average of years.

Corn markets have been pretty ſteady of late, and it ſeems to be underſtood, that the demand for cattle is quickening, though in almoſt all ſales yet made, complaints have been heard that keeping has not been well paid for; a diſcouraging buſineſs for ſpeculators in graſs lands.

The new horſe fair of Stranraer, held upon the 25th ult., ſucceeded well, and good draught horſes brought very decent prices. Indeed, horſes of this deſcription have been advancing progreſſively; and perhaps it might be worth while for an extenſive farmer to calculate upon the probable profits of rearing this kind of ſtock upon a larger and more ſyſtematic ſcale than we are yet acquainted with.——*24th July.*

Dumbartonſhire Quarterly Report.

The weather during May afforded a ſufficient quantity of rain at ſeaſonable intervals; but the cold froſty winds which prevailed during that month retarded vegetation very much. The firſt half of June alſo afforded ſufficient moiſture; and the drought did little harm till the firſt ten days of July, after which, we had enough of rain. On the 23d current, it was ſo heavy, as to lodge ſome parts of the wheat fields, but to no great extent. During the whole ſummer it has been very windy for the ſeaſon, and as yet we have had no calm, ſettled weather.

The wheat crop looks well, and, if we have warmneſs during the ripening ſeaſon, promiſes to be a fair crop. The oats are ſtill a little ſhort in the ſtraw, but the late rains will remove that complaint. The bear, and peas and beans, appear as promiſing as uſual. Potatoes, though late, look well; but the turnips are much complained of; however, it is probable the rains may recover them alſo. The hay crop, from the rains in May, has turned out much heavier than for two years paſt. The greateſt part of it is already ſecured in fine condition, but a little ſtill remains expoſed; no price is yet talked of. One general remark may be made as applicable to all the crops this ſeaſon, that they are about two weeks later than laſt year. We will therefore be expoſed to the dangers of a late harveſt, unleſs the weather is uncommonly good.

The

The markets have continued pretty ſteady during the quarter, and without any great variation in price. The rate of rents continues on the advance, but ſervants' wages increaſe ſtill more rapidly. Indeed ſervants are ſo ſcarce as to be procured with difficulty at any price; and unleſs ſome relief is ſoon experienced in this reſpect, it will be impoſſible to proceed with agricultural improvements. In the preſent ſtate of things, the expenſe of their wages is not the only evil, for the difficulty of managing them is much increaſed, although the quantity of their labour is diminiſhed. Many hundreds of Iriſh labourers come over to this country yearly. Some of them turn out very well, and others bad enough; but while the ſcarcity at home continues, ſuch a ſupply muſt be conſidered as an advantage.——*25th July.*

Perthſhire Quarterly Report.

For theſe four weeks ſcarcely any rain fell in this county, excepting ſome ſlight ſhowers in the weſtern parts, till the 23d inſtant, when the weather broke, and we have ſince had ſeveral very heavy thunder ſhowers. Such a tract of dry weather has hurt the crop conſiderably. Wheat indeed, where it was not thrown out by the early ſpring froſts, will be a weighty crop; and beans and peas are uncommonly fine on good land. But barley, excepting what was early ſown on deep ſoils, has a very unpromiſing appearance. Much of it was put in while the ground was wet; and the drought ſoon ſetting in with ſeverity, there is at preſent no reaſon to expect more than half a middling crop in many inſtances. The oats ſtruggled long with the drought. The produce in grain, owing to the recent rains, may not be far ſhort of a medium; but the ſtraw will not now be bulky. The crop of hay is very light on all thin ſoils, but on rich land well ſtocked with clover, there ſeems little reaſon for complaining. The potatoe crop ſuffered in the firſt inſtance by exceſſive wetneſs, whereby many of the ſets were rotted, and afterwards by drought, which hardened the ground, eſpecially where it had any clay in its compoſition. Turnips have brairded very unequally, and will be late; which likewiſe will be the caſe with every ſpecies of crop, excepting perhaps wheat. Flax had an uncommonly fine appearance in the beginning of the ſeaſon, but the check given by the dry weather, has, to a certainty, greatly leſſened the produce in many places. Towards the weſt ſide of the county, where the climate is more moiſt, this article will be very fine.

There is little doing in our grain market at preſent. Wheat is about 17s. *per* boll, and oatmeal 1s. 7d. *per* peck. There is likewiſe a ſtagnation in the cattle trade. But as that is the caſe generally over the land, there is perhaps ſmall occaſion for noticing it particularly, in a provincial report.

It has been ſaid, that there is more coppice-wood, chiefly oak, in Perthſhire than in all Scotland beſides. The principal part of theſe coppices is to be met with in the Highland part of the county, where a very large fall of it has taken place this year, owing in ſome meaſure, no doubt, to the tempting price that both timber and bark bring at preſent. In ſome diſtricts on Loch Earn ſide for inſtance much injury has

has been ſuſtained by the oak caterpillar this ſummer. Prematurely ſtripping trees of their leaves, is known to retard their growth; but it is apprehended, that a practical remedy for this evil is rather to be wiſhed for than expected.

Every wellwiſher to agriculture muſt be gratified by learning, that an attempt is at length to be made to have the farmer relieved from the preſent unjuſt and oppreſſive method of aſſeſſing him to the property-tax. The gentlemen farmers of Roxburghſhire have certainly done themſelves much honour by taking the lead in this meaſure; and it is to be hoped that thoſe of other counties will join with them in petitioning for relief from ſuch an unreaſonable exaction. The patience with which it has hitherto been born is truly wonderful, and can only be accounted for by a reference to the peaceable and orderly diſpoſition of the profeſſion, which leads them to ſubmit, almoſt on every occaſion, to the laws, without murmur or complaint.——*July 25th.*

Aberdeenſhire Quarterly Report.

The weather, which was cold and ſtormy during the ſpring ſeaſon, has continued ſomething ſimilar through the ſummer months; and, on the whole, rather adverſe to vegetation. The hay crop, which is generally cured in the higheſt ſtate of perfection, is but light and inſignificant, except on the beſt ſoils. Paſtures have not yielded keep for near the uſual number of ſtock, in many places, land being much poached, in the firſt inſtance, by wetneſs, and afterwards parched by drought. Markets for cattle have been dull; the beſt ſtock, or thoſe of ſize and condition, being ſold 12 or 14 per cent. below their value in former years; whilſt the inferior, or lean cattle, could ſcarcely find a purchaſer at any price. Sheep in ordinary condition have come lower in a greater degree, whether ewes or wedders, while ſtock fit for the butcher, whether cattle or ſheep, have met with a ready ſale, and at a fair value. The ſeaſon for ſowing the turnip crop was exceedingly good, and the plants generally got up full and cloſe on the ground; but, owing to the exceſſive coldneſs of the atmoſphere, they have not come on ſo faſt as might have been expected; and upon thin land, or ſuch as had a high expoſure, they have made an imperfect appearance. The corn crops are generally cloſe and full on the ground, owing to the goodneſs of the ſeed; but, except on the fineſt fields, they have not got very high; ſo that, however well they may cover the ground, there is little probability of the ſtack-yards being filled to the uſual ſize. As the ſeed was late of being laid down, and as the weather for two weeks paſt has been warmer and favourable, it is to be hoped that the crops of every kind will equal the ordinary average. Potatoes are far behind in the appearance they generally make at this ſeaſon; and fruit has been in many places entirely cut off by the froſt. There has been little difference in the prices of grain ſince the date of laſt report. Oats and oatmeal may be quoted at from 20s. to 23s. per boll, in the Aberdeen market; while bear remains almoſt unſaleable. Work of every kind is carried on with the accuſtomed ſpirit and alacrity. Labour was never higher, nor hands obtained with greater difficulty.——*July 25.*

Letter

Letter from Falkirk, July 25.

'SINCE laſt report the weather has been much in extremes. The early part of the current quarter was unuſually wet for the ſeaſon, and, following after long continued ſpring froſts, which had mellowed and looſened the earth to a great depth, reduced it almoſt to the ſtate of mortar. During the month of June, and up to the 23d inſtant, there prevailed a moſt exceſſive drought, not merely from the abſence of rain, but a clear unclouded ſun, accompanied with high withering winds, which completely dried the earth up to the very bottom of the furrow. In a clay diſtrict like the Carſe of Falkirk, it will naturally be concluded that ſuch a ſtate of weather could not be favourable to the growing crops. This has certainly, in ſome degree, been the caſe, but leſs than might have been expected. Hay has been got up in the beſt condidion, with little trouble, and at the leaſt poſſible expenſe. Owing to the deficiency of clover from the ſpring froſts, it is of ſmall bulk, but, being compoſed almoſt entirely of rye-graſs will weigh heavier than its appearance in the rick would lead us to expect. Even taking this circumſtance, however, into the account, it is a deficient crop; and if it is alſo conſidered, that there is ſcarcely a handful of old hay in the diſtrict, the price will probably be high, though at laſt market day this was in no degree ſettled, the ideas of the buyers and ſellers on this point being farther apart than uſual. Paſtures have ſtood out better than could have been expected, thoſe at leaſt which were not too early ſtocked; and, as they have now had an abundant ſupply of moiſture, will probably continue good. Our wheat this ſeaſon has grown uncommonly tall, but is thinner on the ground than laſt year, which has prevented it lodging extenſively, notwithſtanding the late heavy rains. This will probably give a ſuperior quality of grain to that of laſt year, which, though of great bulk, was much injured from being early lodged. This crop, after potatoes and drilled beans, is ſtrikingly inferior to that after fallow. Late ſown barley is moſt wretched; it ſcarcely deſerves the name of a crop; what was ſown earlier is tolerably good. Oats are but a very middling crop; till lately they were extremely unpromiſing and ſhort in the ſtraw, but, having now got a full ſupply of moiſture, will probably mend a good deal. They are likely to be below an average. Beans are by much the beſt crop in the Carſe this year. They are extremely luxuriant, and promiſe an abundant return. Upon the whole, although much no doubt depends on after weather, we ſhall ſcarcely reach an average crop in this diſtrict. Harveſt will be earlier than it promiſed ſome time ago; with favourable weather it will commence in four or five weeks. Summer fallows are generally in good order; where otherwiſe, it is owing entirely to negligence or miſmanagement, the weather having been uncommonly favourable for carrying forward that important operation in the moſt perfect way. Our grain market has been remarkably dull, eſpecially for wheat, that article for ſome time being ſcarcely ſaleable. This is ſaid to be owing to large importations of wheat from France,

France, and flour from America. Of late it has turned rather briſker; the preſent price about 38s. per Linlithgow boll. The granaries along the canal are ſtill well ſtored with this article, which has for ſome time been almoſt entirely out of the hands of the farmer; as has alſo barley, the price of which is about 32s., beans 29s. There has been a briſk demand for oats; price entirely regulated by quality, that is, by weight; oat-meal in retail 1s. 8d. per peck. A conſiderable ſupply of oats from Ireland has probably prevented that article from going ſo high as was ſome time ago expected.'

Berwickſhire Quarterly Report.

If we except a few ſultry days previous to the thunder ſtorms, at the beginning of May, and on the 25th of that month, the general temperature of this quarter has been rather below par; a great deal of rain fell during the firſt month of the quarter, but from that time drought has been prevalent till the preſent week, that a few partial ſhowers have taken place.

Hay harveſt has hitherto experienced favourable weather; but, as moſt of the fields had been paſtured in the ſpring, owing to a general ſcarcity of keep at that period, the crop is far from being weighty. Paſtures upon light loamy ſoils were good till the drought began to take effect: upon clay land they have all along done very little.

The rains in May, while they rendered many of the heavy loams unfit for turnip, greatly retarded the working of lighter ſoils, and occaſioned a large proportion of the turnip fallows to be ſown in an imperfect ſtate as to cleanneſs: upon light, dry ſoils, the ſeeds have vegetated freely, and the plants are thriving; but where wetneſs or a mixture of clay prevailed, the braird has been partial. It may not be improper to mention a drill-machine, of an improved conſtruction, now pretty generally adopted in this county for ſowing turnip, as it does the buſineſs more completely than any hitherto in uſe; being ſo contrived, that the coulters which open the ſoil and depoſite the ſeed, are ſeverally made to riſe up backwards, when they meet with any obſtacle that does not eaſily give way, and, as ſoon as they have paſſed it, fall into their place again. This machine ſows two drills at a time, and can be attempered to make the rows of any given wideneſs, and lay the ſeeds at any depth that may be required. *

Wheats are luxuriant, but rather ſmall in the ear. Oats upon freſh loams, promiſe an abundant crop; upon thin land their appearance is not favourable. Barley is generally thin. Beans are very thriving; and peas have lately aſſumed a promiſing aſpect. Preſent appearances ſeem rather to indicate a late harveſt; but much will depend upon the weather that ſhall intervene between and that period.

Lean ſtock, particularly cattle, has all along experienced a dull ſale, attended with a conſequent reduction in value; hog ſheep having ſold from 12 to 14 *per cent.*, and lambs from 20 to 25 *per cent.* below the rates

* The drill above mentioned is made in a very ſubſtantial manner by Mr Allan, joiner at Coldſtream. Price five guineas and a half.

rates of laſt year. Good fat has ſold currently at 7s. 6d. and 8s. per ſtone, ſink, of 14 lib. avoirdupois.

Fine Cheviot wool has brought fully laſt year's price; but long wool is about 8 *per cent.* down. Contrary to every expectation, corn markets have not been affected in the ſmalleſt degree from the enemy's poſſeſſion of Poland, or the fall of Dantzick. Prices at Berwick, on Saturday laſt, were, wheat from 50s. to 52s. Oats 25s. per boll of 6 buſhels. Barley or Peas are ſcarcely now to be met with at market.—*July* 25.

Letter from Langholm, July 25.

'THE weather, during the laſt quarter, has been generally warm and dry, a few days excepted, till the 12th of the preſent month; ſince which, we have had rain leſs or more every day. The crop of ſown graſs was moſtly got up before that period, and in excellent order; but owing to the ſpring froſts, there is leſs proportion of clover than uſual. The drought in June and the beginning of July, has hurt the turnip crop in many places, the ſeed not having vegetated equally in ſeveral inſtances. The corn, which lay longer than uſual under the clod, has of late made a rapid progreſs on rich ſoils, but on thoſe of a poorer and lighter quality, it has a weak and ſtarved aſpect. Potatoe fields, in moſt places, have a healthy appearance. Harveſt, it is probable, will be conſiderably later this ſeaſon than uſual.

'There is at preſent an abundant flush of graſs on the paſtures, and both ſheep and black cattle are thriving well, though the former were generally leaner at the commencement of ſummer than uſual. Owing to this cauſe, which may be attributed to the barrenneſs of the ſpring months, there is a deficiency of lambs every where on the high land paſtures. The prices of ſheep have declined conſiderably of late. Lambs, though certainly a ſcarcer article than laſt ſeaſon, are ſelling at reduced prices. Black cattle, notwithſtanding the plenty of ſummer food, can ſcarcely be ſold at any price. At our wool fair on the 15th inſtant, there were few if any purchaſes made, though well attended both by the ſtaplers from Yorkſhire, and the farmers in this and the neighbouring diſtricts; the ſellers demanding laſt year's prices, which the buyers refuſed to give.'

Letter from Glaſgow, July 27.

'THE wheats in this neigbourhood have in general a good appearance; and, ſhould the weather ſet in dry, and continue warm, will certainly turn out a good crop. Oats ſeem light, and will be deficient; more rain would be of ſervice to them, but would cauſe them to be very late. Beans and peas look well, as do alſo barleys in general; but of theſe two grains little has been ſown in this neighbourhood. Hay is a heavy crop; two favourable weeks would be ſufficient for getting it ſecured in good order. Potatoes will be late, and unleſs very favourable weather is received, we are much afraid the quality will be inferior. To take the crops upon the whole, we are of opinion that they have a fair appearance, but they are fully two weeks later than laſt year. It ſeems to us alſo, that dry, warm weather is the moſt to be deſired

fir·d in their preſent advanced ſtate. Within theſe few days paſt we have had a good deal of rain; ſome of the ſhowers were very heavy.

'The importation of grain into Clyde during the laſt three months has been conſiderable. From America, not leſs than 15,000 bolls of wheat, and 10,000 barrels of flour have arrived; and of both there is ſtill a conſiderable quantity expected. On account of this influx, the prices of wheat and flour will be kept moderate, unleſs an opening occurs in another quarter, and which, in fact, has in ſome degree already taken place. To Leith, of late, ſeveral parcels of wheat have been ſent. From Ireland and the ſouth of Scotland we have been abundantly ſupplied with oats, which has kept the price ſomewhat below that of other markets. But as the ſupply has not exceeded the conſumpt, unleſs (which is ſcarcely to be expected) freſh cargoes arrive, prices will, in our opinion, advance before the end of harveſt. Our ſtock of barley and beans is but ſmall; and prices of theſe muſt riſe before the new crop can be brought to market, unleſs larger ſupplies be received than expected. Annexed you have a ſtate of our markets.

'*State of Glaſgow markets, Monday, July 27.*

Dantzick Wheat	40s. to 42s.	p. boll Linlithgowſhire meaſure.
Foreign Red do.	34s.—38s.	
Scotch do.	34s.—39s.	
Engliſh do.	39s.—42s.	
American Wheat	38s.—40s.	p. boll of 240 lib.
Iriſh Mealing Oats	24s.—25s.	do. of 264 lib.
Do. Inferior do.	20s.—22s.	. do. Renfrewſhire meaſure.
Scotch Potatoe do.	24s.—26s.	
Do. Small do.	21s.—23s.	
Engliſh Potatoe do.	27s.—28s.	do. Stirlingſhire do.
Scotch Barley	25s.—26s.	do. do. do.
Engliſh Beans	29s.—30s.	do. do. do.
Scotch do.	27s.—29s.	
Do. Oat-Meal	24s.—25s.	do. of 140 lib.
Fine Flour	62s.—63s.	ſack of 280 lib.'

Forfarſhire Quarterly Report.

The long tract of froſt mentioned in laſt report, was ſucceeded by a week or two of wet weather, which prevented the ſowing of barley from being finiſhed till about the laſt week of May. Since that period until the 23d current, there has almoſt been an inceſſant drought, which has impaired the crops on thin and clay ſoils materially. On light lands, the ſpring crops ſet forth with a promiſing appearance; but now the aſpect is different,—the paſtures are ſcorched,—the corns are burnt up,—and half the fodder uſually obtained may ſcarcely be expected. The fine rains which have fallen within theſe few days, were too late to recover them much. On clay lands the proſpect is not much better, being finely made by froſt, the rains in May put them into a ſtate almoſt like mortar; and the ſucceeding dry weather has rendered them almoſt as hard as brick. To the above remarks, wheat may form an exception, being a grain

grain leſs hurt by violent exceſſes of the weather than others. On ſoils proper for that valuable grain, and where the preparation was good, it is univerſally a fine crop; but on the contrary, where the ſoil is indifferent and preparation bad, the crop looks miſerable. Having ſaid thus much of the appearance on light and clay ſoils, it may be added, that thoſe of a free and deep nature will bear a more favourable ſcrutiny; the exceſs of moiſture in the end of May, did not ſtop the growth of corns on lands of that deſcription, but only rendered them the more able to endure the exceſſive drought which followed. Oats of the late varieties, together with barley, will be very much behind in reaping, ſcarcely any of them being yet fully eared; in ſhort, a late harveſt may be dreaded.

Turnips have a promiſing appearance, the ſeaſon for the dreſſing proceſs having been excellent. The fallows have ſeldom been ſo early cleaned, and the manuring of them is going on rapidly. The prices of cattle have fallen ſince laſt report, and the graziers are doubtful if any graſs rents will be obtained. As the country is full of ſtock, and the appearance of fodder but ſcanty, it is preſumed that prices cannot riſe towards the end of the year; and as the breeding ſyſtem is followed extenſively, there is little proſpect of better markets for ſome time at leaſt.—*27th July.*

Weſt Stirlingshire Quarterly Report.

The weather has been as unfavourable to the huſbandman, during the preſent, as during the preceding quarter. In May, rain and froſt generally prevailed. Towards the end of that month a glimpſe of ſummer appeared; and, after a few ſhowers in the beginning of June, the moſt ſevere drought ſet in that has ever been remembered. For the laſt three weeks we have had ſuch genial and frequent rains as promiſe to counterbalance the injurious effects of the preceding weather.

From this ſtatement it will readily occur, that the crops in this diſtrict muſt be uncommonly backward. From the time of the bloſſoming of broom, a plant where nature is left to exert her energies undiſturbed by the ſkill or induſtry of man, I am inclined to think this ſeaſon from two to three weeks later than the laſt.

Hay was both late and light, clover having ſuffered greatly. This crop has, in general, been admirably harveſted, and, from its ſuperior quality, will turn out more valuable than at firſt expected. Very little has yet been ſold. I have been informed, that the Carron Iron Company began ſome weeks ago to purchaſe at the rate of one ſhilling per ſtone. They conſume between thirty and forty thouſand ſtones annually.

Whether the ſeverity of the weather has injured the animal as well as the vegetable tribe, cannot be aſcertained; but certainly diſeaſes are uncommonly frequent this ſeaſon among beſtial. Sheep, particularly, are infeſted with maggots, which neſtle under the ſkin, and in the courſe of four or five days occaſion the death of the animal. When attacked, they run about, and betray inceſſant reſtleſsleſs. The remedy employed for this malady, is to ſcrape off the maggots, and anoint the parts with tar.

tar. A few inſtances, for the firſt time, occurred laſt ſeaſon, but this year the diſeaſe has been very frequent. It ſeizes equally the poor as well as the fat ſheep, and thoſe paſturing on upland moors as well as on the richeſt vales.——*27th July.*

Mid-Lothian Quarterly Report.

From exceſſive rains and cold, during the ſpring months, being ſucceeded by dry parching weather during the greateſt part of June and three firſt weeks of July, the crops of oats and barley upon moſt ſoils appear both thin and ſhort. Wheat and beans look better, and bid fair to be average crops. Potatoes appear much inferior, and alſo far behind. Turnips ſown before the 18th of June, ſprung evenly, and, in general, look well; but thoſe that were ſown later, have either come up partially, or lain dormant. Since the 22d current, the country has been bleſſed with fine rains, and genial mild weather, from which the moſt happy effects are expected. The crops, at preſent, are a fortnight behind; in many caſes much more; and it is devoutly to be wiſhed, that an eke may be made to the month of July or Auguſt, or, at all events, that the elements this ſeaſon may be regulated by the old ſtyle. Hay has been got up in fine condition; the quality is excellent, and perhaps may afford more nouriſhment than in ſome ſeaſons when the bulk and quantity is greater. Oat-Meal, by retail, 1s. 8d. per peck of 8 lib. Dutch; the quartern loaf 1s.; butcher-meat 6d. and 7d. per lib. Dutch; cattle, beſt fat, 9s. per ſtone of 17½ lib. ſinking the offal, with a heavy ſale.

For ſome years paſt, encouragement has been given for harveſt-work, unknown and unthought of in former times; yet, in many markets, this encouragement has fallen ſhort of the utopian ideas of certain reſtleſs individuals, who ſeem to think, and indeed have ſaid, that, to aſſiſt in cutting down the crop, is conferring a favour upon the grower that can ſcarcely be repaid,—little reflecting, that it is the welfare of the community, more than that of the farmer, that is at ſtake; for, in the nature of the thing, he is only firſt in hand with that portion of the produce which he and his eſtabliſhment may require. It is the ſurplus (whether that may be ſmall or great) that comes to market; hence, every dimunition of that ſurplus, from whatever cauſe it may ariſe, is a public loſs. Theſe reflections are excited by the diſturbances which have taken place for ſome years paſt in our markets for hiring ſhearers, which certainly, in many inſtances, have been ſlightly noticed.

At Edinburgh market, a party of the town-guard always attend on Mondays; but why are they not commanded by their ſuperiors to ſee that they do their duty when neceſſary? It is not meant that the guard ſhould interfere, in the moſt diſtant degree, in the hiring of ſhearers, but that they ſhould merely keep the peace, and ſee that every one ſhall be at liberty to demand as much, and engage for as little as they incline, without diſturbance of any kind. Whether the peace is kept or not, is a queſtion which can eaſily be anſwered, by every one who attends the market.

Laſt ſeaſon, on the firſt market-day at Mid-Calder, the number of reapers was conſiderable; but the weather being good, and the harveſt coming on faſt, good wages were given, and parties concerned were pleaſed. A few ragamuffins (wiſer no doubt than the reſt) attended at the different avenues from the market-place, and demanded of every one who was going to leave it, the rate of their wages, which, not being to the ſatisfaction of theſe lords of the market, they, by force and maltreatment, drove back their fellows like ſheep into a fold, to the equal diſappointment of the engagers and engaged; and thus the food of man was ſuffered to ſtand expoſed for a week to the precarious viciſſitude of the elements.

On the Monday following, ſeveral gentlemen, two lords, and an earl, attended as Juſtices of the Peace: the conſtables of the neighbourhood, and alſo a party from Edinburgh, were ſummoned to attend. The morning was wet; but theſe gentlemen, much to their credit, remained upon the ſpot for ſeveral hours. When the firſt hands that were engaged began to leave the market-place, the ſame proceedings were attempted by the ſelf-conſtituted governors that had taken place on the former week: two of them were inſtantly ſeized, and ſent in a cart to get the beſt encouragement they could obtain in Edinburgh jail for a week; and, after the period of their engagement had expired, in place of receiving wages, they were fined and diſmiſſed, with a ſtrict injunction, in future, to take all they could get in a fair way, but never to interfere with the free-will of others.

In harveſt 1805, a reſpectable farmer, after having paid his whole reapers the wages that had been ſtipulated, and to all their ſatisfaction, except that of one man, who inſiſted that his wife ſhould have ſomething more than her neighbours, becauſe, as he ſaid, ſhe was a good hand, threatening, if his demand was not complied with, it would be in vain for his employer to expect to get his crop cut down, or to get any more hands, as he would go to the market and prevent it, and that it would be well for him, if, in addition, he ſhould eſcape with his life.

Conſidering that ſuch unmerited threats were not to be paſſed over, this gentleman ſent an expreſs to the commanding officer on the impreſs ſervice, then lying in Leith roads, narrating the circumſtances, deſcribing the culprit, and ſtating where he would be found. A party of the preſs-gang was accordingly ſent to the place of rendezvous, by midnight, who ſeized Paddy, and employed him in the ſervice of his country, without allowing him to uſe threatenings againſt any other than the common enemy.

Theſe inſtances are adduced as an example to others under ſimilar circumſtances, which, were they more generally followed, would contribute to the public proſperity, in place of having the labour of many houſands of hands loſt, for the greateſt part of, perhaps, a fine harveſt-day, and that, too, ſpent in riot and inſubordination, and, in many caſes, not without blows and bloodſh[illegible] 27. *July.*

Fifeſhire

Fifeſhire Quarterly Report.

DURING this quarter, the weather has not been favourable to the growing crops; exceſſive wetneſs, with cold froſty winds, having prevailed in the firſt part of it, which were afterwards followed by a ſevere drought. Owing to theſe circumſtances, the ſeveral crops were impeded in their growth till the 16th inſtant, when fine rains were received, which have benefited every one of them conſiderably.

The price of cattle has been ſo low, that the rent of graſs land will, in many inſtances, be a dead loſs to the occupiers. It is probable that the rate of rents has reached to the top of the ſcale, and that a reduction of the market value of graſs land will take place next ſeaſon; becauſe the breeding of cattle has gone too far to be profitable; and many people having given it up, the demand for graſs will conſequently be leſſened.

The Farming Society of this county lately publiſhed reſolutions relative to the importation of ſpirits from Ireland, a meaſure, in their opinion, highly injurious to the Scotch diſtilleries. Were it poſſible to prevent ſmuggling in Ireland, little danger need be dreaded from the Iriſh diſtiller; but while the laws againſt ſmuggling cannot be ſtrictly enforced in Ireland, the people of this country are juſtified in oppoſing any meaſure which had for its object the importing of ſpirits upon paying a nominal equalizing duty. The landholders and farmers of Scotland have reaped important advantages from the Scotch diſtilleries; therefore, it becomes their duty to ſupport them by every proper means.——29. *July.*

Roſs-ſhire Quarterly Report.

CROPS of every kind, in this county, threaten to be under an average, excepting on ſoils capable of reſiſting ſevere drought, and under good management; which latter circumſtance is far from being general here. From the beginning of June till the 9th of July, the weather was almoſt invariably dry, attended with cold winds. Since the latter period, a very beneficial change has taken place, although, in many caſes, the crops were ſo far gone, as to be paſt any thing like complete recovery. The dryneſs of the weather was highly favourable for cleaning turnip land; and the ſowing meeting with no interruption, the ſeed was got into the ground earlier than at one time expected. The moiſture of many fields, however, being nearly exhauſted, a partial braird took place till the rains came, which has thrown the major part of the crop later than could be wiſhed. As ſeveral turnip growers loſt their braird, owing to the machines they uſed not laying the ſeed deep enough, it may be obſerved, that the ſeed-conductor ſhould make a rut, ſo as the ſeed may be depoſited about two inches in the earth. Hay partakes of the lightneſs of other crops, but is moſtly ricked in excellent order. Potatoes are likewiſe imperfect. Paſtures ſuffered ſeverely by the drought, and have not yet been ſufficiently moiſtened.

Live ſtock are almoſt unſaleable. A few ſmall droves of cattle, which were bought fully 20 per cent. under laſt year's prices, went

ſouth, and, after all, the drovers are reported to have loſt money on them. Amongſt ſheep, little is doing. At the Beauly market, coarſe wool advanced 6d. per ſtone above laſt year's prices; ſmeared ſelling at 8s., and unſmeared at 10s.

The materials are laying down for building a bridge over the river Conan; and, it is ſaid, the foundation ſtone will be laid in a few days. Mr Fletcher, the contractor, being a gentleman of eminent character in his line, the public may confidently expect a ſubſtantial and valuable edifice.——28. *July.*

Eaſt-Lothian Quarterly Report.

THE laſt week of May, and the two firſt weeks of June, being very wet, occaſioned ſerious injury to the corn crops on clay ſoils, which was only partially removed by the ſubſequent dry weather. On light ſoils, much benefit was received from the rains by every ſpecies of crop; though, afterwards, this benefit was greatly curtailed by the drought which immediately followed.

Taking the crops of the diſtrict in a general point of view, it may be reported, that wheat is rather below par, unleſs where the ſoil is of a deep loamy nature, capable of reſiſting the extremes both of wetneſs and drought. Barley appears to be a medium crop, except on thin clays, where, in fact, this grain ought not to be cultivated. Oats are a ſhort crop almoſt in every ſituation, though appearances were originally very promiſing. Beans flouriſhed during the rains, but were afterwards ſtunted by the drought, and, in numerous inſtances, are imperfectly podded. Potatoes threaten to be deficient, much of the ſeed having rotted by the rains. Turnips brairded irregularly in many places; but, at this early ſtage, nothing poſitive can be ſtated with reſpect to them. Hay is a heavier crop than laſt year, though a want of clover is much complained of; and paſture graſs has yielded full as good a bite as in ordinary ſeaſons.

Markets for grain have remained tolerably ſteady through the quarter, any fluctuation being rather upwards, eſpecially with oats, which are an uncommonly ſcarce article. The ſale of cattle has been dull, and at reduced prices; which, in all probability, will cauſe a heavy loſs to the grazier in every caſe, but eſpecially to thoſe who take graſs for the ſeaſon,—rents this year having gone to a pitch not to be matched, unleſs extraordinary profits were reaped.——1. *Aug.*

ENGLAND.

Letter from a Farmer near Wakefield, July 22.

THE exceſſive fall of rain during the month of May and beginning of June, did conſiderable injury to all clay ſoils, whether in graſs or corn. The dry land bore it well, and was filled very full of graſs; but the wet land only began to grow when the fine weather commenced. Of courſe, the hay crop is variable; but, in general, the clovers are [illegible]. The hay is now nearly all ſecured in the rick, and that in the fineſt

fineſt condition poſſible, having only had two ſhowers of rain theſe five weeks, which fell on the 11th and 14th inſtant, and thoſe very ſhort and partial. In conſequence of the drought, our paſtures are ſuffering much, and we are at preſent threatened with ſcarcity of graſs for ſheep and cattle. This fills the markets with half fed beef and mutton, and has occaſioned a conſiderable decline in price. Beef now is worth little more than 6d. per lib. ſink, *except what is very fat.* Mutton and lamb 6½d. and 7d. p. lib. ſink. Our turnips are alſo ſuffering for want of rain, the later ſown ones particularly. There was much land that could not be got in condition on account of the exceſſive rains in May; this was to clean, when the dry weather commenced in June, and being ſo often turned over in the little interval before ſowing, the mould became ſo dry, that much of the ſeed did not vegetate; and where it did vegetate, the plants are ſo weak, that they are dying for want of moiſture. On the contrary, where the land was clean before the rains, and the ſeed put in the ground with deſpatch after ploughing, before moiſture was evaporated, (a moſt eſſential point in the cultivation of turnips), both drilled and broadcaſt are looking well, being at this time in a forward ſtate of hoeing, and apparently free from every diſeaſe. Our grain crops are variable, according to ſoil. The wheat in general appears good throughout the county, and may be eſtimated at preſent above an average crop. Barley alſo pretty good. Beans promiſed well a fortnight ago, having got a tolerable length, and full of bloom; but the drought has in many places brought on the black fly, and the upper bloſſom is falling off in many inſtances, before any pod is formed, which will materially leſſen the produce. Oats are a very failing crop; indeed I never ſaw them at this ſeaſon ſo unpromiſing. The ſtrong clay ſoils are ſo baked, that they cannot ſhoot; even upon the beſt dry land, in the fineſt tilth, they are very ordinary. I believe this is the caſe over the Weſt Riding, great part of which I have ſeen. Oats are getting up in price, alſo very fine wheat; ſtale and ordinary ſamples are ſcarcely ſaleable. Fine wheat 11s. per buſhel. Other ſorts from 8s. 3d. to 9s. 6d. per do. Oats 3s. 6d. to 4s. 3d. per do. Barley, none at market. Beans 5s. 3d. to 6s. per do. Our wool markets are very heavy. Coarſe long wool 10 per cent. lower than laſt year; very fine maintains its price. But in conſequence of the alarming appearance of affairs on the Continent, trade is uncommonly dull, and the people are much out of ſpirits, dreading the impending danger.

'The fat cattle market to-day at Wakefield was much overſtocked, in conſequence of the drought; and a further reduction in price has taken place. Some half-fed beaſts ſold at little more than 6s. per ſtone of 14 lib. ſink offal.'

Norfolk Quarterly Report.

'The ſavere ſtorms of wind, with the cold rains in the months of May and June, and the long and piercing drought which ſucceeded, proved extremely prejudicial to the ſpring crops; and the ſhock then ſuſtained has never been recovered, the light ſandy and gravelly ſoils

ſoils ſuffering equally with the ſtrong clays. On the former the plant died, or remained pale and ſickly after its firſt promiſing appearance; and on ſome of the very light ſoils, the barley, I fear, even now, has ſcarcely attained ſufficient vigour to ſhoot the ear clear of the ſtem, or, to uſe a provincial phraſe, I am afraid it will 'ſtick in the hoſe.' On the ſtrong lands, a conſiderable portion of the ſeed, though it vegetated, yet not being able to pierce the hard cruſt which the drought had formed on the ſurface, rotted in the ground; and, in ſeveral inſtances, the crop was ſown a ſecond time.

Warm weather, and ſome ſhowers, however, lately fallen, have certainly produced a favourable effect on the general appearance of ſpring corn; and we may perhaps average it at about two thirds of a crop. Wheat will probably completely gratify the ſanguine hopes it had excited during the winter and ſpring months. It appears abundant on all ſoils and ſituations,—uninjured, at preſent, either by blight or mildew, and probably will much exceed the average produce. The reaping-hook will be pretty generally employed upon it in the courſe of a fortnight or three weeks. Peas, white and grey, preſent a moſt miſerable figure. In many ſpots they are totally deſtroyed; in moſt ſituations they are materially; and in all, at leaſt, partially injured by the louſe, and cannot exceed one third of a fair crop. They may be cut even earlier than the wheat; barley harveſt later.

Turnips have ſuffered in ſome few inſtances from the fly, eſpecially thoſe early ſown, but the general appearance is promiſing. Hay is plentiful, both from natural and artificial graſſes, and has been carried to the ſtack in high preſervation.

Indiſpoſition prevented my attendance at Mr Coke's ſheep-ſhearing this year; but I learn that numerous parties of the firſt order of agricultural amateurs were preſent; and it is almoſt needleſs to add, were received with the uſual polite and friendly hoſpitality and attention. Leiceſter tups were ſold cheap, and the South Down let at reduced prices, compared with former years. The Merino is now the rage. Mr Coke has ſold, I am informed, his Merino wool, at 4s. 6d. per pound. This breed of ſheep, or at leaſt a croſs with it, deſerves every encouragement, both on ſelf-intereſted and on patriotic motives, throughout the united kingdoms. With reſpect to the latter conſideration, we ſhall now probably be excluded, by our inveterate enemy, from every foreign market for fine wool; and unleſs we can grow a ſufficient quantity at home, our ſtaple manufacture of ſuperfine cloth muſt, in a very ſhort time, be nearly annihilated, to the great prejudice of the public, and to the utter ruin of many thouſands of individuals. With regard to the former,—ſelf-intereſt, a croſs of the Merino with the South Down or Ryeland, will aſſuredly pay well—moſt liberally—if, as I am fully perſuaded may be the caſe under judicious management, the form of the South Down can be preſerved from material deterioration; for this I have ſeen already effected, in a very eminent degree, though upon a ſmall ſcale, by a [illegible] neighbour William Morte, Eſq., who has a few ſheep of

of this croſs with the South Down, which he bred, and which do not diſgrace in form the pure Downs, and from one of which, a very ſmall ewe, he cut 7 lib. of fine wool. Indeed, ſeveral of theſe ewes, even of the firſt croſs, are approaching very near perfection in the carcaſe.

One only of the implements exhibited at Mr Coke's ſhow was deemed entitled to a premium (20l.), and this rather a ſingular one, 'A Fly Catcher.' It is drawn by a labourer over turnips infeſted by the fly. The motion diſturbs the inſect, and every one that riſes is inevitably caught. One man will go over ten acres in a day. I did not ſee, and therefore cannot explain the performance; but ſhould it be found to ſucceed, on repeated trials, no doubt its form, the materials of which it is compoſed, and the method of uſing it, will in due time be laid before the public. The judges were convinced of its utility, and, in conſequence, awarded the premium. The gentleman who obtained the premium for this invention has ſince produced another, of a ſtill more eccentric appellation, 'A Louſe Catcher;' by which, we are told, peas may be cleared of that deſtructive vermin at an expenſe of only 4s. 6d. per acre. Here I wiſh ſome of your readers may not exclaim, 'Credat Judæus,' &c. What pity this ingenious machine did not make its appearance ſome weeks earlier, and ſave from deſtruction ſo many quarters of that moſt valuable pulſe which it promiſes in future to protect!——*July* 23.

Northumberland Quarterly Report.

In the two firſt weeks in May there was ſcarcely a fair day; the third week moſtly fair and hot; on the 25th a moſt violent thunder ſtorm; and the remainder of the month cold, froſty, the hills being deeply covered with ſnow. In the two firſt weeks of June there was alſo much wetneſs; ſince which, little or no rain has fallen, and the drought is beginning to be ſeverely felt.

The conſequences of the above weather were inimical to the fallows; even the dry lands could not be got properly cleaned; and upon the wet ſoils every attempt at ploughing only made matters worſe. The dry ſoils, from the abundance of wet, were in the moſt favourable ſtate for receiving the turnip ſeed, which vegetated immediately; and upon all ſuch ſoils the plants are looking very healthy and promiſing; but upon adheſive loams that were longer of getting ready, a great deal of the ſeed, from the cloddy ſtate of the lands and dry weather, has not yet vegetated; and upon all ſuch land turnips will be an indifferent crop.

The ſame cauſe that was ſo favourable to the turnips upon dry ſoils, has been equally favourable to the hay and corn crops; but upon clay ſoils, and moiſt thin loams, the effect has been the contrary: upon ſuch, the crops of every ſort of grain are looking thin, and the harveſt has an appearance of being late. Hay upon old graſs lands is very abundant; but the clover crops appear deficient from a want of plants, which were probably deſtroyed by the froſts. The corn markets have been lately upon the advance. From the ſmall quantities in the ſtack yards, and appearance of a late harveſt, there is a probability of

their

their ſtill being higher. As to ſtock, markets have been regularly declining, for ſome time paſt. Long-woolled hogs were ſold in May 20 *per cent.* lower than laſt year; and at Yetholm fair lambs were from 20 to 30 *per cent.* lower than the year before. Wool is alſo a trifle lower; viz. ſhort wool 1s. 6d. per lib., and long wool 11d. and 11½d.; which is 1½d. or 2d. per lib. lower than laſt year, and about 3d. lower than in 1805. Fat ſtock much the ſame as laſt quarter.—*July* 25.

Lincolnſhire Quarterly Report.

THE fen crops ſuffered ſeverely by the heavy rains of May, not only in this county but in ſeveral of the adjoining ones, whereby ſeveral fields of wheat were nearly deſtroyed. Many corn fields were ſown twice this ſeaſon; conſequently, the crops of this diſtrict muſt be reported as of an inferior deſcription. Latterly, the drought has done great injury to the ſandy ſoils, the crops being thereby ſtunted in their growth. Hay has been finely harveſted. From the diſaſtrous ſtate of affairs on the Continent, the wool trade is much at a ſtand; the little that is ſold of the long combing kind only bringing from 23s. to 25s. per todd of 28 lib. avoirdupois.——*26th July.*

Letter from the Eaſt Riding of York, 27th July.

'AT the time I wrote you laſt, the weather changed from dry to wet, which continued through the month of May and firſt week of June, when it changed to dry, and has continued ſo ever ſince, a few ſlight partial ſhowers excepted. There are now ſome appearance of more, but the ground is ſo much hardened, that it will take a great deal of rain to wet it. Paſtures are very bare, and much burnt. The crops of hay are light upon natural meadows, but heavy upon artificial ones. Wheat is upon the whole a good crop, particularly ſo upon all ſoils that have been well managed; beans are a middling crop; oats very bad; barley decent; and flax below par; the latter article was extenſively ſown, conſequently the breadth of oats is conſiderably reduced thereby. Potatoes were planted in great quantities this year; they are late, but look well where not too early planted. Turnips grow very ſlowly for want of rain, but are not much deſtroyed by the fly or caterpillar. Our grain markets have been very ſteady. Wheat is now ſelling at 75s. to 84s.; Oats 26s. to 34s.; Beans 46s. to 50s. *per* quarter of eight Wincheſter buſhels. Fat cattle 6s. 6d. to 7s. *per* ſtone of 14 lib. ſink; ſheep 6d. *per* lib. ſink. Lean cattle and ſheep have but little ſale, and at a reduction in price of 10 to 15 *per cent.* in the laſt three months.'

Letter from Wales, 27th July.

WE had a moſt favourable ſpring, and the ſowing of corn was finiſhed in good time; but a heavy daſh of rain, in the middle of May, proved extremely hurtful to the oats and barley, and more ſo as it was followed by a ſevere drought, which continued till laſt Tueſday week; on which day we had a fine rain, and it has continued ſhowery ever ſince. Although the corn was, to all appearance, too far advanced to recover, it is amazing what a change there is for the better. The wheat has had a promiſing

promiſing aſpect throughout, and is now looking well. If warm weather continues for ten days, harveſt may then be general in the Vale of Glamorgan. The barley, on the gravelly and light ſoils, will be good.; but on the clays it has failed; oats are the worſt crop, being both ſhort and thin, and, though much recovered ſince the rain, will be little more than half a crop. Peas had a promiſing appearance for a long time, but ſtopt at once, and the rains came too late for them; ſome are cut, and the greateſt part will be harveſted in the courſe of this week. Moſt of the hay has been got up in fine order, and the crops are good where the land was in heart. The late rains have been favourable to the turnips, which, in general, are looking well; ſome of them are hoed and others coming on, though ſome fields are ſtill to ſow; the breadth of turnip ground increaſes in this part every year. Potatoes are now thriving, and we have a fair crop of apples. Wool ſells well, *viz.* from 26s. to 36s. per ſtone of 21 pounds, for the wool in the Vale; but the wool on the hills is ſtill higher. Sheep ſell much as laſt year, either fat or ſtore ſheep; lambs are dearer. Cattle have a dull ſale, and prices are at leaſt fifteen *per cent.* lower than laſt year: lean ſtock hangs on hand. Butter 14d. per pound; and good cheeſe of this year's make, as high as 9d. Corn is dull, and, contrary to the general run of years, prices are on the decline; a circumſtance that ſeldom happens here before harveſt. There is but little ſtock on hand in this part; but we have a deal of both wheat and flour from England, and our markets have lately been glutted. There is a great complaint for want of a market for our iron; and, the chief dependence of this diſtrict being on the iron works, were they to decline, the country would ſuffer ſeverely.'

Letter from a Gentleman in Cumberland, 27th July.

'THE appearance of the crops is much improved ſince the late rains. Wheat promiſes, in general, to be good, though in ſome parts of the county it is thin, narrow in the blade, and ſhort in the year, and its height in the ſame field is unequal. Early ſown barley is better than was expected, in conſequence of the long continuance of dry weather: it is certainly an average crop. Oats have, on dry ſoils, been conſiderably injured by the drought, and the potatoe oats is affected with the ſmut in many parts of the county. The drilled crops, which are not numerous, promiſe to be good, particularly the oats and barley, and part of the wheat. The crops of clover and ryegraſs are good;—near Carliſle the beſt they had for ſome time. The meadows are luxuriant, many of them not yet cut. Early potatoes have ſuffered conſiderably from the dry rot. Turnips are *but little ſown* in this county; they are a very unequal crop. Wheat 9s. 3d. *per* buſhel; barley 4s. 10d.; oats 4s.; beans 6s. Fat cattle, 7s. *per* ſtone of 14 lib. There is but a ſlow demand for lean cattle.'

Letter from London, 27th July.

'WITH regard to the preſent crops of grain, that of wheat is undoubtedly a good one in point of quantity; and as we hear very few complaints of injury by mildew, or otherwiſe, there is reaſon to look

for the quality being fine, providing the weather is favourable for houſing it. The continuance of dry weather has undoubtedly done conſiderable injury to ſpring corn in general. As to peas, indeed, they have almoſt entirely failed; and beans appear not likely to be more than two thirds of a crop. Barley is pretty good on ſome of the rich fine lands; but upon all the hot dry ſoils it will be greatly deficient; and we think the ſame may be ſaid of oats. Our importations of the latter article continue ſo large, that, notwithſtanding the great demand, prices will probably give way. The wheat market has diſappointed the general expectation of advance, which, although it cannot be very well accounted for, has, in a great meaſure, been owing to the exceeding large importations of American flour. The ſupply of freſh wheat for this day's market was not very conſiderable; but, as harveſt will in a few days commence pretty generally in the neighbourhood of the metropolis, ſales are dull, and made at reduced prices.

'*State of the London Markets, July* 27.

Wheat, Eſſex	54s. to 62s. to 74s.	
——— Fine White	80s.	
——— Kent	83s.	
——— Norfolk	54s. — 65s.	Fine White to 75s.
——— Berwick	55s. — 60s.	Fine to 70s. Northumberland to 75s.
——— French and Dutch Red	50s. — 58s.	
——— Dantzick and Zealand	50s. — 68s. to 76s.	
——— Black Wheat	53s. — 63s.	
Rye	43s. — 45s.	
Barley	35s. — 40s.	
Malt	60s. — 74s.	Fine Norfolk Boilers to 110s.
White Peas	70s. — 85s.	
Grey ditto	56s. — 60s.	
Pigeon Beans, new	50s. — 53s.	
Tick ditto, new	44s. — 48s.	
Oats, Long Feed	22s. — 25s.	Short Smalls or Friezlands 27s. to 29s. Fine 30s. to 32s.
——— Polands	27s. — 31s.	Fine 32s. to 34s.
——— Potatoe	35s. — 37s.	6d. (very ſcarce)
Fine Flour delivered to the bakers	65s. per ſack	
Fine Flour by ſhipping	58s.	

Old Rape Seed 21l. to 24l. New 24l. to 26l. per laſt.'

Yorkſhire Quarterly Report.

'The crops of wheat and barley promiſe to produce as well as uſual, if not better: yet the barleys have not ſhot regularly into ear, on account of the great heat and dryneſs of the weather,—of courſe cannot be expected to ripen ſo evenly as might be deſired. The wheats in the different climates of this extenſive county, have generally had as favourable a ſeaſon for their flowering as perhaps was ever known, ſcarcely a ſhower

er occurring during the whole period of fructification, to obſtruct the complete ripening of the grain. This obſervation applies alſo, in general, to ſuch parts of the midland counties as the reporter could ſee from the road on his return from London a few days ſince. In ſome parts of the counties of Huntingdon, Bedford, Hertford, &c. many fields of wheat and barley will be ready for reaping this week; and, in one field of wheat, the ſickle had begun its work on the morning of the 24th inſtant.

The oats have had too much drought; and the beans and peas, from the extreme heat, and the prevalence of the black lice, &c. have ſuffered materially; yet many good looking crops of the latter are to be found.

Rape and flax are ſhort in ſtem, and not over abundant in ſeed. Potatoes are good and abundant. Of apples, a plentiful ſupply will not be wanting.

The crops of hay and clover have been fuller than uſual; and, for the earlier cutting, it has been one of the beſt curing ſeaſons ever heard of. Some meadows are ſtill uncut in the later diſtricts. The turnips promiſe to plant tolerably well: ſome fields have been hoed once over; but that operation is not in a very advanced ſtate. The ſummer fallows have been neglected from the preſſure of turnip work, occaſioned by the heavy rains in the firſt and ſecond week of June.

The price of grain is at preſent riſing; and, from the aſpect of affairs on the Continent, nothing thence can be looked for to effect the contrary. Whether it may continue to riſe, with the expected importations from America, a little time will ſhow: the probability is, that no adequate ſupply from that part of the world can by any means meet our known deficiency. The beſt Wheat is about 11s.; Oats, 5s.; Beans, 6s. 6d.; and Rye 7s. 6d. per buſhel of Wincheſter.

Fat and lean cattle and ſheep are low; Pigs ſomewhat higher; Beef, Mutton, Veal and Lamb at 7d. per lib.; Butter at 1s.

Wool is declining in value, except ſome of the finer ſorts for clothing. The wools of Lincolnſhire are ſaid to have ſuffered a depreſſion of near 30 *per cent.* from laſt year's price.——*July* 28.

Postscript to Scotish Intelligence.

Letter from Haddington, 12th Auguſt.

'The harveſt will be much earlier than looked for, and has already commenced in the earlier parts of this county, where ſeveral fields of barley are cut down. Generally ſpeaking, it will be two weeks before cloſe harveſt can be expected, even if the weather continues good; though, under preſent circumſtances, there is every reaſon to hope that the winter wheats will, in that period, be ready for the ſickle. Markets are rather on the fall, though the current crop does not, by any means, furniſh a proſpect of a return equal to the ordinary averages. Wheat and barley, though not of great bulk, promiſe to be of excellent quality; but oats, from the drought, are viewed in a different light, being not only deficient in bulk, but imperfectly filled.'

NOTICES

Two eſſays, viz. *on the Conſtruction of Cart Wheels*, and *on the Management of Live Stock*, originally preſented in this Magazine, having recently appeared in a London weekly publication, without any reference to the ſource whence they were borrowed, we are induced to ſtate, that no objection can ariſe on our ſide when other editors are pleaſed to make uſe of our articles, provided the loan is fairly acknowledged. It cannot, however, be viewed as handſome conduct to borrow ſuch articles, even when decked out with the additional words, '*For the* FARMER'S JOURNAL.'

We will be extremely happy to receive a communication from '*Our Conſtant Reader*' on the ſubject mentioned. His other favours will be duly attended to; and in mean time he will be pleaſed to accept of our reſpectful acknowledgments.

The valuable aid of Sir JOHN SINCLAIR Bart. will never be neglected; and we requeſt permiſſion to return our ſincere thanks for the intereſting hints *as to the Means of Preventing the Depopulation of the Highlands*, lately tranſmitted. The earlieſt opportunity will be taken of ſubmitting theſe hints, and the papers on Caithneſs huſbandry, to public conſideration.

The *Recipe for killing Rats and Mice* being of importance, we lament that it reached us too late for inſertion in this Number. At the ſame time, it may be remarked, that many *infallible* remedies againſt theſe vermin have already been offered to the public, while their deſtruction ſeems as diſtant as ever.

A reply to the Paper in No. 28, *on the evil tendency of letting land by the higheſt offer*, is received. We are not quite ſure that our reſpectable correſpondent is correct in all his doctrines, as perhaps we may afterwards attempt to ſhow. In the mean time he ſhall have a fair hearing.

Dr Keith's *Obſervations on the Report of the Gentlemen appointed to inveſtigate the comparative qualities of Engliſh and Scotch barley and bigg, for the purpoſe of malting*, would do honour to any publication, becauſe his obſervations are fair, candid and liberal, and diſplay an intimate knowledge of the ſubject inveſtigated. It was beyond our power to give ſuch an intereſting paper a place in this Number; but, without fail, it ſhall be [illegible] next. An abſtract of Dr Keith's arguments [illegible] Drs Hope, Coventry and Thomſon [illegible] his ſentiments on this important [illegible]

[illegible] many other communications received [illegible] ſhall be duly attended to.

[illegible] letters of intelligence,

[illegible] 9th of November.

[illegible] R, EDINBURGH.

THE

FARMER'S MAGAZINE:

NOVEMBER 1807.

(No. XXXII.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Turnip Husbandry;—with Figures of some Implements used in cultivating that Root. By the Reverend Mr Campbell, Kilcalmonell.

SIR,

PERHAPS the account of my potatoe husbandry, given in the last Number, might be viewed by some of your readers as more tedious and minute than necessary; therefore, in detailing my practice in cultivating turnips, care shall be taken to avoid prolixity in every respect. No doubt, turnip husbandry is better understood in many other counties than here; still, as every district has practices which may be useful in others, I hope something may be learned from the following details.

The preparatory culture for turnip, is the same with that for potatoe, though strict attention is necessary to make the land sufficiently fine, by repeated ploughings and harrowings, and to level it by cross-harrowing. In the beginning of June, by means of a double mouldboard plough, furrows are drawn 2½ feet asunder; which, after having the dung placed in them, are converted into ridges by the same implement. The turnips are sown, if the weather is favourable, about the 10th June. If sown much sooner, they are apt to run to seed, and not to keep so well through winter. If sown much later, a weighty crop is seldom obtained. If the weather become suddenly dry after the seed is sown, the farmer need not be discouraged, as will appear from the following article copied from my Farm Journal. "*June 13th* 1799.—The day being cloudy, with small rain, sowed field turnips. Some of them came up a few days thereafter, but were

attacked by the fly, or rather, an insect about half an inch in length, and one tenth of an inch in breadth, which destroyed most of them. The weather continued dry to the 25th, when there was heavy rain; and in a few days the seed, which had lain dormant, began to vegetate. On the 30th a great number of turnips appeared, and many seedlings were in a state of vegetation under the surface. As this is seventeen days from the time of their being sown, it shews that the farmer ought to wait a considerable time before he is at the trouble of re-sowing a turnip field which he supposes to have been lost by the drought.'

Immediately before sowing, the ridges are flattened by the row harrow, the strake, and the roller, that the young plants may be nearer the dung, and, consequently, be shorter time without sufficient nourishment to enable them to resist the drought and the fly. The plants which come up most vigorously at first, are the best in all their after stages; and the seed sown in the high top of a ridge, at a distance from the dung, will not vegetate so soon, nor so powerfully, as that sown in ridges which have been treated in the manner here described. The roller is a cylinder of ash, 9 inches in diameter, and 4½ feet long, so as to allow it to cover two ridges at a time without danger of slipping off either of them. It is fixed in a car frame, and guided by plough handles, to prevent more of its length, and consequent weight, from being on one row than on another, and to assist in turning it at the ends of the land. The rows thus smoothed and levelled, are prepared for the seed-barrow. But, for the benefit of those who are not possessed of this implement, or who have it not of a proper kind, and who cultivate turnips upon a small scale, I shall describe the method which I have generally practised. The seed is whitened with pounded chalk, that it may be seen whether it falls regularly in a small track, an inch deep, made with the end of a stick in the middle of the ridge, and passed through one hole kept open in the grate of a small coffee-pot, which is shaken over the ridge. The seed will run more equally, by putting only a small quantity into the dish at a time; and the sower will, by practice, acquire the habit of walking at such a pace, and managing his hand in such a manner, as to sow about two lib. to an acre, which he will do in less than two hours. The lid of the dish is secured from opening by a bit of flannel of larger dimensions than its mouth, and pressing the lid upon it. These may seem trivial remarks; they will, however, be the means of preventing serious accidents, in country situations remote from the seed shop. Sowing thick, is an additional security against failure in the crop, and weeds will not so easily hurt it; advantages, compared with which, any saving of expense by thin sowing

sowing is no object. The seed is covered by passing the roller over the ridges, which will shut up the small track in which the seed was deposited. The roller is not used for this last purpose during rain, nor when the soil is so wet as to adhere to it, but employed only when the ground is dry. If the rain continues for some days, until the seed begins to vegetate, there is no occasion for rolling, nor is the omission followed by any bad consequence, as the seed will vegetate equally well without being covered, in such a state of weather as precludes the use of the roller after sowing.

When turnips are beginning to peep through the surface, and for a few days afterwards, they are carefully watched and defended from sparrows and other small birds. When the plants are about an inch long, the paring hoe plough goes round every ridge, so as to leave the middle of it occupied by the turnips, about three or four inches broad. The hand hoe is then employed to thin them, so as to leave the plants 12 inches asunder, reckoned from centre to centre.

The culture of roota baga, is the same with that of common turnips, with this difference, that the former are thinned so as to stand only six inches asunder in the row, because they do not grow to so large a size. For this distance, narrower hand hoes must be employed than are necessary for common turnips.

In about eight days after the earth is removed from the sides of the turnip rows by the paring hoe plough, which will give time for the weeds covered by the plough to rot, and the thinnings from the turnips to wither in the intervals; the earth in the intervals is pulverized and kept clean by the hoop, or (where it is apt to choke) by the pulverizer and paring hoe plough, as directed in the management of potatoes.

When the plants are eight or nine inches long, the double mouldboard is twice drawn in the intervals, regulating its depth and width according to circumstances. The hand hoe follows, to supply any omissions of the double mouldboard; not so much with a view to cover the roots of the turnips, (which perhaps is not necessary), as to destroy all the weeds, against which unremitting warfare is to be carried on by the horse and hand hoes, until the turnips are sole masters of the field. If a second earthing up is required, it will be more effectually performed by introducing the hoop or the pulverizer before the double mouldboard. Any weeds which appear in the rows after they have closed upon one another, are pulled away by the hand.

In 1803, part of my turnips was earthed up by the double mouldboard; and another part was cleaned, and the intervals filled up, by the pulverizer and hoop. I could not perceive any difference

in the goodness of the crop. The natural tendency of turnip, is to have the upper part of its bulbous root above the surface; and as this part is not provided with feeders, it would appear that raising up the earth is not necessary to promote its growth. Where the intervals are filled by the hoop, the land can be more easily ploughed for the subsequent crop, and the turnips can with less difficulty be taken up at the beginning of frost. On the other hand, raising up the earth with the double mouldboard, preserves the roots in some degree from frost, and there is less grass and fewer weeds to be seen in the tops of the ridges, after the crop is removed. Upon balancing those different circumstances, the farmer will judge whether he ought to finish the turnip culture by the hoop, or by the double mouldboard; or whether he ought not to use both, and finish with the hoop.

The following is a description of the Screw Muzzle, or Plough Regulator, invented by me; with an account of the advantages it possesses over those of a different form.

The cramp, Fig. 1, is a plate of iron, half an inch thick, except at the place of the screw 10, where it is one inch thick. It is 4¼ inches long before it is folded, and 2½ inches broad. 10 is a bolt hole $\frac{8}{10}$ths of an inch wide, in the centre of the plate, which is to be screwed after the plate is folded. 1 and 1 are two openings half an inch wide, and one inch and a half long; the outermost sides of which are half an inch from the edges of the plate, both at the sides and ends. The plate is folded at 6, 7; and at 9, 8; so as to make the sides 2, 6, 7, 5, and 9, 8, 4, 3, parallel to each other, and at right angles to 6, 7, 8, 9. Each of the three sides is one inch and a half broad.

Fig. 2. 1, 2, 4, 3, is another view of the cramp above described, but reduced to a scale of $\frac{1}{10}$th of an inch to one inch.

The frame 9, 10, Fig. 3, is an iron hoop one fourth of an inch thick, and one inch and a half broad, to suit the width of the cramp. The sides are each 15 inches long, and the ends 1¼ inch. This, with an inch allowed for joining with the welding heat, makes the whole length, before it is folded, 33 inches.

The handle 8, 11, Fig. 3, is 2¼ inches broad, where broadest, and 9 inches long. It is one quarter of an inch thick at 11, where it is joined to the frame, and tapered thin towards the sides, and towards the end 8, at which last place it has a hole to receive a screw-bolt, by which it is fixed to the beam. It is further connected with the beam by means of a small hoop, which is of such width as to receive the point of the beam after the handle is passed through it. The hoop is about 2¼ inches wide by 3 long.

The

The stalk 17, 16, Fig. 2, is half an inch thick, about 17 inches long, and one inch and a half broad, so as to admit of its being easily passed through the openings in the cramp. It has an eye, at 16, an inch in diameter, to receive the rod 15, 14, which, after being passed through it, is hooked into the eye of a bolt 18, fixed by a screw-nut in the beam. The rod is 24 inches long. It is not made longer, that the plough may have more clearance, and be less in danger of being choked. It is half an inch in diameter, which is less than the diameter of the hole through which it passes. If made to fit exactly, the shifting of the depth and land by the other parts of the muzzle would not be so easy. It has an eye at 15, to receive the hook of the swingle tree or draught chain. The eye may be 2 inches in diameter. The stalk 17, 16, is curved as in the figure, to suit the circular motion of the rod moved from 14 as its centre. The frame 9, 10, has a similar curve to suit the lateral motion of the rod when changing the land. The cramp 1, 2, 4, 3, Fig. 1, embraces the side 9, 10, of the frame Fig. 3, after which the stalk 17, 16, Fig. 2, is passed through the openings in it, (*see* 1, 1, Fig. 1.), and is fixed at any place required by the screw pin 5. The screw pin being turned round by the moveable key 8, in the same way that a smith's vice is closed or opened, forces the cramp to pull back the stalk, and to press it strongly against the side 9, 10, of the frame Fig. 3. Unscrewing the pin a little, allows the stalk to be moved up or down; which carrying the rod 15, 14, Fig. 2, alongst with it, changes the depth of the plough. This likewise allows the cramp to be moved from one side to the other of the frame 9, 10, Fig. 3; and as moving the cramp necessarily moves the stalk and rod, this gives to the plough different degrees of land; so that one screw pin has the command of all the changes of land and depth.

Advantages of the Screw Muzzle.

1*st*, It is stronger, having less strain upon it than other muzzles have, as the cattle do not pull from it, but from a rod which passes through, without being fixed to it. One muzzle of the above dimensions will wear out twenty ploughs; although the beams are less strained by them than by other muzzles.

2*dly*, The changes are more minute upon it. The cramp can be moved one tenth of an inch laterally to change the land; and the stalk one tenth of an inch perpendicularly to change the depth.

3*dly*, The changes can be made more expeditiously. One screw regulating the depth and land, gives it a great advantage in this respect, as it not unfrequently happens that both require to be altered at the same time; and this can be done more expedi-

tiously by the screw muzzle, than one of those operations by other muzzles.

4*thly*, From the peculiarity of its construction, the length of its stalk and the breadth of its frame may be so much extended as to admit of its giving a greater range of variation to the depth and land of the plough than what can be given by other muzzles, without straining the beam, or being liable to be twisted itself so much as they are, if made large enough to have equal power with it; at the same time, in those circumstances, it looks handsomer, and is a greater ornament to the plough than any of them are. The frame by which the breadth is changed in this muzzle is 15 inches broad, to admit of the plough being pulled by two horses, and yet be in a line with one of them; as in earthing up horse-hoed crops, either with a single or double mouldboard-plough in very stiff or hilly land, where one horse is not sufficient for the purpose. The stalk, by which the depth is regulated, is made long, to make the same plough suit all the different kinds of soil, and the different lengths of the plough irons, occasioned either by their being newly made or mended, or by their being much worn.

Lastly, Though the original cost of this muzzle should be more than that of other muzzles, (and it is not more, if they are made so as to command equal degrees of depth and land, and be equally strong); yet, if it shall be found to have the durability and other advantages ascribed to it, cheapness will be allowed to be added to the rest of its properties.

The length of the stalk is of great service when the plough is drawn from one field to another; as, by setting it down very low, the point of the plough can be more easily kept from dipping into the ground, or striking against any obstacle in its way. This is particularly necessary with the double mouldboard plough, as it is more liable to injury from such accidents. A plough with this muzzle, by which the point of the beam can be set higher than with others, and with an erect feather attached to the sock to supply the place of a coulter, does not require so much clearance before the sheath, and may therefore have a beam with less curvature than other ploughs. The beam, by having less curvature, and no coulter hole, will be stronger, and may be made lighter than other curved beams in coultered ploughs, and yet have equal strength.

ALEXR. CAMPBELL.

FOR

FOR THE FARMER'S MAGAZINE.

Hints, regarding the best Rotation of Crops for the County of Caithness, and the other Northern Districts of Scotland. Communicated by Sir JOHN SINCLAIR, *Bart.*

IT seems absolutely necessary to think of some new plan of cultivation, or rotation of crops, in the northern districts of Scotland. Bear, formerly the great source of profit, will no longer indemnify the farmer, or enable him to pay an adequate rent. Wheat, being of sure sale, is certainly a proper article to try; and if sown early (on which the whole depends), not only good crops may be produced, but also grain of excellent quality. In order to ascertain how far wheat would answer, the following rotations are recommended, by an intelligent South-country farmer, to the attention of those who may wish to try so important an experiment, either on light or strong lands.

1. *On Light Lands.*

It is more than probable that a fallow is *absolutely essential to clean the land*, and that five furrows would be necessary the first rotation. Begin to plough early, at furthest in the end of May, or beginning of June. Lay on thirty cubical yards of good dung per Scotch acre, and 30 bolls, or 120 English bushels of Sunderland lime. The dung and lime to be laid on with the last furrow. Sow as early in September as possible. Three bushels of seed will do if sown early; if not, more will be necessary. Both red and white wheat from Essex may be tried, or old seed from Scotland, but always of the very best quality. In April, harrow the wheat, and roll, and sow grass seeds, which will produce, next year, a good crop, without injuring the wheat. The rotation, then, to be as follows.

Proposed Rotation on Light Lands.—1st year, Fallow; 2d year, Wheat, produce, probably 10 bolls per acre; 3d year, Hay; 4th year, Pasture; 5th year, Oats; 6th year, Turnips; 7th year, Bear; 8th year, Hay; 9th year, Wheat, on one furrow.

2. *On Strong Lands.*

It is much more difficult to form a good system for raising wheat on strong land than on light, at least in a northern climate, where beans are a hazardous crop. A fallow with *five* furrows, is absolutely necessary. Begin to plough early in the spring, and sow the wheat in the beginning of September. A greater quantity of manure will be necessary for this kind of soil, namely,

from 35 to 40 cubical yards of dung, and 150 bushels of lime. Grass seeds with lime are hazardous in strong lands. Beans would be the best second crop, if not bear or barley. If bear is sown, take one furrow immediately after harvest, and two in the spring. With the bear, sow grass seeds; and after one year's hay, and one year's pasture, break up with oats, and continue the same rotation, beginning with a fallow.

Proposed Rotation.—1st year, Fallow; 2d year, Wheat; 3d year, Beans, or Bear and Grass Seeds; 4th year, Hay; 5th year, Pasture; 6th year, Oats; then Fallow, &c.

[The above Hints being submitted to the Consideration of some intelligent Farmers in Ross and Cromarty, the following Observations regarding them were transmitted to Sir JOHN SINCLAIR.]

Communication from Mr Archibald Dudgeon of Arboll, in Ross-shire, addressed to Donald MacLeod Esq. of Geanies.

SIR, *Arboll, 18th May* 1807.

I BEG leave to submit to you the following observations on the 'Hints regarding the Culture of Wheat in Caithness,' which, if you judge worthy of transmitting to Sir John Sinclair, they are at your service.

1*mo*, *Light Land.*—1*st*, The cultivation of wheat on light soils *after fallow*, is regarded as hazardous. To speak professionally, it frequently throws out in the spring, or, in other words, a number of the plants die, which generally renders the crop a poor one. 2*dly*, Where land has got a full dose of lime, and wheat the first crop that is sown thereafter, (unless the season is uncommonly fine), the lime militates seriously against the quality. The operation of the lime on the soil protracts the period of ripening, at first; and although the quantity of dung to be administered would be very beneficial in counteracting this, still it appears to me adviseable to give potatoe oats the preference, the first round. Were the foregoing two objections obviated, the preparation in other respects is excellent. Provided it is meant that the ploughings for the fallow are to be preceded by a ploughing before winter, (which is necessary to make fallow work kindly in the ensuing summer), and that harrowing and gathering of quickens is carefully attended to betwixt each ploughing, three bushels per acre of seed is plenty on rich lands, well prepared; but, on the average of soils and preparation, four bushels will be more eligible. It

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is surely well judged to get the seed from England; and I have heard it alleged, and I doubt not on good reason, that the northern counties should have their full supply of seed annually from the south. In place of what is laid down, I would substitute the following

Rotation for Light Land.—First Round: 1. Fallow; 2. Potatoe Oats; 3. Grass; 4. Grass; 5. Grass; 6. Wheat.—Second Round: 1. Turnips; 2. Potatoe Oats; 3. Grass; 4. Grass; 5. Grass; 6. Wheat.

The preparation for wheat, after the three year old grass:—To be ploughed the latter end of August or beginning of September; well harrowed; allowed to lye for two or three weeks, then seed-furrowed across the first ploughing.

2*do*, *Strong Land.*—Wheat, after a well wrought fallow on strong lands, is considered as a sure and valuable crop; while the remark, as to the sowing of seeds on such soils in the spring, (unless critically attended to), holds good; at the same time, the idea of beans should be abandoned. In Ross-shire it is a difficult matter to raise them to perfection; and several of the best farmers in the county have given them up. Beans require a much longer season to ripen, than our climate in the north favours us with. On good dry-bottomed lands, they will do; but, on these, turnips will be found a more advantageous crop. Beans being excluded entirely from our husbandry, is not a serious loss. I would propose the following

Rotation for Strong Land.—First Round: 1. Fallow; 2. Potatoe Oats; 3. Grass; 4. Grass; 5. Wheat.—Second Round: 1. Fallow; 2. Wheat; 3. Grass; 4. Grass; 5. Wheat.

Potatoe oats succeeds the first fallowing, as the land is supposed to be newly limed. Grass seeds should be sown with wheat as early in April as the land will carry horses without potching it, taking care not to allow it to become hard and dry before the seeds are sown. It is having the business executed at that nice juncture, betwixt wet and dry, which insures success. Early sowing in Caithness will assuredly be advantageous,—as soon after the 20th of September as possible. The quantity of dung for both soils appear to me greater than a farm can furnish at the beginning, and greater at an after period than is adviseable to apply at one time. I consider from 20 to 25 cubic yards sufficient for an acre if it is well rotted dung. On the other hand, the proportion of lime appears under par. In place of what is recommended, I should suppose from 160 to 180 bushels of lime shells on the light lands, and from 200 to 240 ditto on the strong lands necessary.

General

General Remarks.—While the reduced value of bear and barley imperiously requires that these grains be expelled from the list of rent-paying crops, in order to meet the increased expense of husbandry; and further, that the value of lands be made to keep pace with the progressive advance on lands in the south, while these call for a new system, still *extensive* practice should be cautiously gone into (by those paying rents) till experience justifies their projects. Wheat is unquestionably the most profitable grain we grow; and the soil of Caithness, in general, has every appearance of being suited for its culture. Although the rotations I have submitted strikes me as good, I have not the presumption to say they are the best for that county. The gentlemen and farmers thereof must be better judges than a stranger; and when they are about to introduce the cultivation of a description of grain which promises to add much to the opulence of their country, they will no doubt, by well conducted experiments, ascertain the true rules on which they should act. I remain, Sir, with due respect, your most obedient servant,

ARCHD. DUDGEON.

To Donald MacLeod Esq. of Geanies.

Extract of a Letter from George Middleton Esq. Cromarty, regarding the best Rotation of Crops in Caithness, dated Cromarty, 24th May 1807. *Addressed to Sir* JOHN SINCLAIR, *Baronet.*

I KNOW so little of the soil or climate of Caithness, that I cannot well judge of the proper rotation of crops there; but I think your climate moist, and your soil mostly incumbent on a wet bottom. I would not advise, therefore, your sowing much wheat till after three or four years experience, as it may not ripen well. In some seasons, even here, it will not come to perfection, where the situation is exposed. I have one farm, three miles west from this, rather high, where I find it not prudent to risk much wheat, though the soil is very rich. I think you will find the Potatoe or Polish oats, more certain pay, after fallow, excepting in very good soils and favoured situations; for inferior wheats are very unsaleable.

I think fallowing absolutely necessary in all wet bottoms, whether the soil be strong or light. Turnips may be considered as a fallow. As there are many farms where no dung can be got but its own produce, there will not be nigh enough to cover a sufficient breadth of fallow, at the rate of thirty cubical yards per acre, along with lime. A less quantity of dung, therefore, must often be used. There is no rule to be invariably followed regarding

regarding the number of ploughings for fallow, as much depends on the climate and soil; but you should plough and harrow in the driest weather, until the land is perfectly clean. The ridges should be made round, and from fifteen to eighteen feet broad; and gathered up, at least twice, by the middle of September. If wheat is to be tried, it should be sown immediately; for on early sowing all depends. Take care to keep off all the surface water at the ends of your field, by clearing to the level, with spades where necessary. Where you intend oats after your fallow, gather it up in the autumn, in the same manner as if for wheat, and sow on that furrow in spring, without further ploughing, harrowing well, or scarifying the surface before sowing. Oats are found to grow well by following this plan. You may sow grass seeds with the oats, or on the wheat crop, in the middle of May, and harrow it. Sowing oats on a winter furrow, is a Northumberland practice; and I never knew it fail where the land is clean.

Where it is intended to sow oats, if the fallow has not been got perfectly clean, plough again in spring before you sow. If you try Polish oats, sow thick, and at least five firlots per Scotch acre.

The following rotations are submitted to your consideration.

1*st rotation.*—On soils of a middling quality, where no dung can be got but the produce of the farm.—1st year, Fallow; 2d year, Wheat or Oats; 3d year, Hay or Pasture; 4th year, Pasture; 5th year, Pasture; 6th year, Oats; 7th year, Turnips or Fallow; 8th year, Oats; 9th year, Pasture; 10th year, Wheat or Oats.

2*d rotation.*—On the best soils, where more dung can be got than is produced on the farm.—1st year, Fallow; 2d year, Wheat; 3d year, Barley and Grass Seeds; 4th year, Hay or Pasture; 5th year, Wheat or Oats, with a light dunging.

I would by no means advise beans, for they will not ripen here, except on favoured spots, and in good seasons.

The probable return of wheat may be stated at from seven to eight bolls: of Potatoe oats, eight quarters. Of Polish oats on your best land, after fallow, you may expect ten quarters per Scotch acre.

I have found, after many years trial, that oats is a safer crop than bear or barley after turnips; and it will probably be more so in your climate; and oats are always of ready sale in the London market. The seed you sow, of Polish or Potatoe oats, should always be changed as often as they become mixt with black oats.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Hints respecting the Culture of Waste Lands, &c.

SIR,

AGREEABLE to your desire, I send you a few loose hints relative to Agriculture, which perhaps may be of use to some of your readers.

1. When we reflect that, in every age and nation, men of the first talents, when they advanced in life, chose to retire into the country to become cultivators, it is wonderful that any thing new, important and true, should remain for us, in these latter days, to bring forward on the science. Yet true it is, that the most powerful argument to give a preference to the cultivation of land, particularly waste, over manufactures and commerce, remains yet to be laid before the public. When a man begins life without a fortune, manufactures or commerce will enable him to get faster forward than land; because his skill as a manufacturer or merchant,—his industry, economy and prudence—will induce the yarn-merchant, or warehouseman, to trust him with their property to a considerable amount. Thus, his credit is also promoted by the profit attached to the goods of the seller, which, if manufactured with taste and skill, or well bought, to suit the export market, will afford a profit far exceeding any culture of land, with little stock. But no man has any inducement to increase the farmer's profit; because, taking more than five per cent. is usury, by the existing defective laws; and nothing but money will aid the cultivator. But when a man begins with a fortune, or after he has acquired it, nothing will enable him to accumulate with so much rapidity and safety as the cultivation of waste lands. Suppose him possessed of 10,000*l.* Sterling. Let him feu 10,000 acres abounding with lime and coal,—say at 2s., 3s., or even 5s. per acre;—it is not long since enough could be got at and under those prices. If he improves 1000 acres *per annum*, the men and money necessary for that purpose are not great, compared to that which many houses in Glasgow employ in trade. If the product pay the expense of the improvement, and thereafter he can set it for 40s. per acre to farmers who can keep lands in order,—though they may not have the necessary stock to put wastes in condition,—he will have cleared 50,000*l.* Sterling in one year. Going on in this way, great part of the expense of the improvement is the feeding his men and horses,—for which he finds a market to himself: and that part of the annual product (of which alone he could make a bad debt) is but a small part of the whole produce,—though he has, at same time, so greatly increased his capital. On the other hand, if a man of 10,000*l.* stock follow trade,

trade, he can do nothing better than buy with cash; by which he gets a profit from the seller: and if he sells, at twelve months credit, his 10,000*l.* for 12,000*l.*, he will have gained 1500*l.* more than his interest; but, by thus attempting to increase his income, he not only risks the loss of that by bad debts, but the capital itself—as thousands have done before him.

2. It is now generally admitted, that some knowledge in mathematics is important to the farmer, by which he is enabled to tie the horse or ox to the plough and cart with advantage to those animals, and to judge if these instruments are properly arranged for their desired purposes. It is also allowed, that some knowledge of chemistry is valuable to him;—because, by it, he can construct his composts in the best manner, and use his manures to the best purpose. But was a great landholder, possessing from five to fifty thousand pounds *per annum*, to say to his tenants—"Gentlemen, you must spend six months in town to study those sciences:" those at least who have advanced in life, and thriven, would smile at him. Yet surely every man of fortune might select a young and good ploughman from the best cultivated districts of Great Britain; sensible, good-tempered, and honest; bind him for a term of years; send him for six months to study those sciences: after which, make him spend his time among the tenants; and say, "Gentlemen, this is the way to increase your quantity of manures; this the way to increase their powers; and this the way to use them. I do not wish to alarm you with risk or expense; but you must try them on a small scale; else I tell you, that you cannot compete for your farms when your leases are out: for he who has tried, and finds their benefit, can afford to pay a rent, and get a fortune to himself; which, if you engage for one half of, you are sure to become bankrupts." I know of no mode so effectual as this to furnish Great Britain with skilful farmers. Nor is this mode a mere theory. After Sir John Sinclair had sat at the head of the Board of Agriculture for several years, he desired me to send him a man who knew my modes and theories, to execute them upon his own estate. I selected Mr Alexander Trotter, who had lived with me four years as a ploughman, and who answers the description which I have given, having put him to study mathematics, chemistry, &c. for six months, before I sent him to Sir John; who, when he had employed him fifteen months, wrote me he wanted words to express the obligation; for he considered him not only as a blessing to himself, but to the county of Caithness;—that he was the best grieve, or farming bailiff, he had ever seen. Mr Trotter, by this short education, has

has been enabled to demonstrate to Mr Pitt of Staffordshire, that his wheel-plough, which he was going to send to Sir John, was not an instrument of any value. Sir John, who has executed many works of merit, if he had done nothing more than call the public mind to contemplate the subject of Agriculture, has made himself one of the most important of British patriots. Nor do I know any superior to him;—or to Mr Watts, for his improvement of the steam-engine; Mr A. Smith for his political economy; Sir R. Arkwright for spinning; and Mr Wedgewood for his pottery: and I hope, when Mrs Abraham shall have taken them all into her bosom, their grateful country will not fail to erect monuments to their memories.

3. No country can advance to that state of wealth, beauty and fertility, to which the industry and skill of man can bring it, until the farmer can be rewarded by cultivating for the inferior animals;—because, whether he cultivates potato, cabbage, turnip, carrot, parsnip, clover, tare or pasture, he frequently gets crops more valuable than grain; while his ground is constantly advancing in cleanness and fertility, and he is greatly increasing his manures; more especially if he receives the urine from his stock into a water-tight place, and keep it till it putrefy; after which, pump from the well three or four times its quantity to mix with it,—because putrefaction, like inoculation, wants but a beginning; fling the putrid water into his dunghills or composts; and as he will soon have more than required for these purposes, sprinkle it in the evening on his pasture fields with a water cart; and soon will he be astonished at the fertility of his grounds. He will also produce more grain, by thus labouring for stock, than if he had cultivated chiefly for grain. Ground, in the highest state of fertility, should have the seed ploughed in the necessary depth, to guard against the crop lodging.—Let two men with the requisite stock persevere for ten years, each, in labouring 1000 acres of waste, having the command of lime. Let one cultivate chiefly for grain; as fast as he cleanses and fertilizes, he exhausts and fills full of weeds. The other for cattle, with his horse-hoed green crops;—as ground is greatly benefited by being kept dry and exposed to the atmosphere, and is also highly fertilized with dung and lime in that situation. At the end of ten years, I would expect the thousand acres thus cultivated for sheep and oxen to be worth ten times the price of the other. Great Britain imports cheese and butter, beef and lean cattle. It is therefore in the state required to accomplish the most fertile and beautiful cultivation. These circumstances form also a crisis in land: for what does it signify whether the farmer drive the produce of the dairy, or cattle, five miles, or fifty, to a market?

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If these crude remarks are calculated to appear in your publication, they are at your service. And I am, &c.

JOHN MACKENZIE.

Glasgow, November 1st 1805.

NOTE.

Mr Mackenzie will be so good as excuse us for omitting a considerable part of his letter; because it relates chiefly to matters of a private nature, with which our readers are not interested. We shall be glad to hear from him on subjects of a general nature. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Perthshire Husbandry.

SIR,

As a comparative view of the past and present state of rural affairs in the several counties of the kingdom, seems to be well relished by the generality of your readers, I have ventured to transmit you the following imperfect sketch for Perthshire; which, if nothing better comes from this quarter, may be published, were it only for the purpose of having the subject canvassed by attracting the animadversions of abler pens.

The county of Perth is one of the most extensive in Scotland. From Solsgirth on the south, to the top of Scairsoch on the north, is not less than forty-eight miles; and from the top of Ben-Loy near Glenlochy, to Invergowry, within three miles of Dundee, is fifty-eight in a straight line. These are the extreme points. The main body of the county, exclusive of the two parishes of Culross and Tulliallan on the Frith of Forth, lies very compact, and is not less than forty-eight miles on a side, when reduced to a square.

The valued rent is 339,818*l.* Scots; the real rent is at least as many pounds in sterling money, though it has been said that it does not exceed the half of that sum. But this is certain, on some estates near the county town, the real rent is upwards of twenty-four times the amount of the valued rent. It will naturally be supposed, that so extensive a track of country contains a great diversity of soil; and in fact that is the case. The Carse of Gowrie, inferior to none in Scotland for fertility, consists of low lying alluvial land; but, on the other hand, one half, at least, of the county, is mountain or moor, contributing very little to the support of either man or beast; a considerable proportion of which is susceptible of small improvement. We have likewise the weeping ferruginous till, and the

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hungry, burning gravel;—the spungy moss, and the arid sand;—the deep rich loam, especially around considerable towns and villages, and the warm, kindly *thatchil*, or stone-brash land.

The climate of some parts of Perthshire differs as much from that of others as the soil does. Snow seldom lies in the Carse; the farmers there are often putting their beans into the ground, whilst sheep in the hilly districts cannot come at their food for snow. Nor does so much rain fall on the champaign as on the higher lying lands, in any time of the year. Some of the Highland vallies, however, owing, it is said, to the reverberation of the sunbeams by the hills, but rather, I suppose, to the shelter which they afford, produce the earliest crops of any place in the county. For instance, the first harvest that we hear of is frequently in the flat about Weem, near the east end of Loch-Tay. It sometimes rains in the eastern part of the shire, while they have fair weather in the south-western; but more frequently the case is reversed, as considerably more rain falls on the west than east side. And, in winter, few of the snow showers brought by a north wind extend beyond the south skirts of the Highlands.

This difference of climate necessarily has a great effect upon vegetation, though much of that influence is commonly ascribed to soil.

It seems to be the opinion of some people, that the climate of Scotland has become much less genial than formerly; and, in support of this hypothesis, they argue that many kinds of vegetables have grown in situations where they cannot now exist. For instance, the remains of forests are discovered on hills sea shores, and under mosses, where the exposure is such that a tree will not now thrive; and ploughed ridges are found in many places so elevated, that no species of grain presently cultivated will ripen. These are well authenticated facts. But, without recurring to periods so remote, most old people assert, that in their youth the summer season was perceptibly warmer; in particular, that, in the month of May, the heat was commonly so intense that farmers were obliged to plough in the morning, so as to have the work over by eight or nine o'clock. But it is very questionable, whether the alteration has taken place in the weather, or the constitution of their bodies.

The soil of a part of the county is likewise much altered from its natural state; but this alteration is usually for the better. By draining, manuring, weeding, and pulverization, the defects of the several kinds of land are corrected, and they are rendered more kindly for producing the useful plants.

As there is such a variety of climate and soil in the county, it necessarily

necessarily follows, that the rate of rent must differ considerably, especially as the most fertile land lies in the best situations. For instance, the land around Perth, though intrinsically valuable, is rendered more so by the supply of dung which is procured from the town, and by the market which it affords for such produce as is too weighty to be carried to a distance, *viz.* clover, turnips, potatoes, straw, &c. On this account, it lets at 7*l.* to 8*l.* an acre. The value of Carse land is also enhanced by its situation on the estuary of the Tay and Earn, where the produce may be shipped to market, and lime brought by water-carriage to within two or three miles of even the most distant farm of the district. Much arable land, however, is let at and below twenty shillings an acre, and even high rented at that rate under the present management; which, by more frequent green cropping, and especially by the introduction of the turnip husbandry, would afford double that rent, and in many cases more. But there is a great proportion of high lying heath, and steep acclivities in the county; on part of which, improvements to a certain extent might be effected, by paring and burning, watering or planting with wood, though altogether incapable of melioration by the plough. Such land can pay but a trifle of rent.

It is incontrovertible, that the gradual depression of the value of gold and silver,—the securing to the farmer a monopoly in the home market for his grain, at a higher nominal rate than formerly,—the recent improvements in the art of agriculture, by which he can draw from the soil a greater quantity of produce,—the introduction of machinery, by which some parts of farm labour is much cheaper performed,—and the adoption of more economical modes of performing other parts, all tend to enable him to pay a higher rent than his predecessors. Still, however, it is a very general opinion, that all these causes combined, are inadequate to effect such a rise as has of late taken place. It can only be accounted for by the high price which grain has maintained for several years in the north of Europe, and by a greater number of people possessing capital sufficient for stocking a farm than formerly, who can turn to no other employment. But whatever the present rise in the rent of land may be owing to, it has been unexpected and surprising even to landlords themselves; nor is it possible to say what the ratio is in which it has taken place; many farms being doubled, trebled, and even quadrupled in rent, within the last twenty years. One farm, which lately was rented at twenty-three shillings an acre, by an industrious tenant, who yet made no money by it, was lately let at five pounds fifteen shillings, being exactly the former rent quintupled, besides the tax on property, horses, &c.; and within these few

months, a number of farms on an estate near Perth, were let at even a greater advance. On every such occasion, there is a numerous competition, which is very different from the state of matters fifty years ago. I recollect to have heard my father say, that about that period, he knew Sir T—— M—— to have been much incensed against one of his tenants, for taking a farm for his son on a neighbouring estate, whilst he (Sir T——) had one which he could not get off his hands; one which, now-a-days, would bring four pounds an acre. And even within less than the half of fifty years, I remember several farms in the most eligible situation in the county, lying for years unoccupied, because no tenant could be found at a rent below the fourth of what they would now let at.

The great number of candidates which appear at every opening, enables the landlord to propose very unreasonable conditions of lease, without deterring offerers; and these are sometimes of a nature much more oppressive to the tenant than beneficial to the proprietor; as is the case with every kind of bonnage service, and many of the restrictions as to the mode of cropping usually imposed; and, in some instances, conditions having a fraudulent or dishonest tendency, are inserted in leases. I have seen, for instance, one which contained a clause declaring any deed, which in law constituted the tenant a bankrupt, to be an irritancy of the lease, which it should not be competent for the tenant or any one else to purge, by paying his debt, or any other means. A clause of truly unequivocal import; as, by virtue of it, after a tenant has expended part of his neighbour's substance, and the whole of his own, in improving the farm, a slight inattention on his part, a quirk of law, or an unavoidable accident, may put it in the power of the proprietor to appropriate the whole meliorations to himself, without making those who have been at the expense of them any compensation; and indeed the clause now inserted in every lease, excluding assignees legal and voluntary, is something of the same cast.

Within these few years, landlords, in letting their lands, have again adopted several of the old disgraceful remnants of villanage, which had been discarded for twenty years back; such as paying cain and driving fuel. They likewise oblige the tenant to insure the steading, and pay a moiety of the annual premium. Of late, too, they have reverted to the old method of taking part of the rent in kind. Not a few farmers, on rich deep land, made money during the dearth in the beginning of this century; as these seasons affected such soils only in a slight degree. Some landlords, used to observe this, without having it in their power to come in for a share, resolved to secure that advantage in future; therefore,

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in most new tacks, a considerable proportion of the rent is paid in grain. This practice, I believe, began in the Carse of Gowry, and there it is now universal. Commonly a boll of grain, half wheat half barley, is taken on each acre, whether the soil be good or only ordinary, beside the money rent. On inferior soils, where little wheat is grown, the grain part of the rent is sometimes taken in one third wheat, one third barley, and one third oats. The landlord, however, does not accept of the *ipsa corpora*; the price is that of the highest fiars, and that on land of every description. This method of paying rent is particularly dangerous for the tenant of thin soils, whether clay or gravel. As it is only the price which the disposable produce of a farm brings at market, that affects the farmer, it is quite immaterial to him, whether the oats, for instance, on which he maintains his servants and horses, and which are used for seed, would sell, *per* boll, at ten shillings or ten pounds. In the late years of scarcity, many of those who occupied shallow or moorish soils, were so far from sending grain to market, that, after deducting what was needed for servants and horses, they had not a sufficiency for seed. This was a hard case; but as their rents were fixed in money, it was comparatively light to what it now will be, on a return of similar seasons; as they must pay an enormous rent at a time when the farm produces less than nothing to pay it from.

The general method of bargaining for farms is by private offers; but some landlords expose them to public auction, reserving a right to select the tenant from a number of the last bidders; and, lately, an instance of a landlord taking the benefit of both ways occurred. He first advertised for private offers, to be received till a specified day, and he got, I am informed, about thirty. He then fixed a day on which it was to be publicly rouped. It was accordingly exposed at the highest private offer; but, though a great number attended, nobody chose to advance. Some Perth people have since got the farm.

Most part of leases are of nineteen years endurance; but there are proprietors, particularly the one alluded to above, who give only from eleven to fifteen; and as little or nothing is ever allowed for reparations, the state of the steadings on such properties may easily be conceived. Fifty years ago leases for life were granted on some estates. On one extensive property, lying towards the Highlands, many of these still exist at a very low rent; but as the land, at the time of granting them, was occupied in townships, *i. e.* a number of farm steadings situated in the same village, whilst the lands lay in runrig, all substantial improvement was excluded; and, even at this

day, nothing effectual can be attempted till the last lease of the township fall.

Some farms are occupied by feuers. This species of holding prevails chiefly on the Ochil Hills, which lye on the borders of Fife and Kinross-shires. The feu-duty, being commonly the rent which the farms let for upwards of a century ago, when they were fued off, is always much below what they would now bring.

Very little land is now possessed by professional farmers without a lease.

The form of leases, even thirty years ago, was extremely simple, at least such of them as we have had an opportunity of perusing are of that description,—merely stating the term of entry, duration of lease, kind and quantity of rent, term when payable, and such like essential clauses, without any of those unnecessarily vexatious ones, which form so prominent a feature in modern deeds. In some cases, the tenant was restricted from ploughing too near the banks of rivers; and, in others, where two or more possessions lay in rundale, the several tenants were taken bound to plough and depasture their respective portions of each break at the proper periodical intervals, according to the then prevalent system of husbandry. And, in one instance which came under my observation, where the farm consisted of a stiff clay and a hazle loam, in nearly equal parts, and very distinctly marked, the tenants were restrained from laying lime on any part of the lightest half, lest they should by that means 'run it out,' *i. e.* exhaust its fertility. The restriction on dressing any kind of soil with lime, will no doubt appear surprising to modern husbandmen. I am not, however, certain, but that, as the land was then managed, it was in certain cases very proper. The application of calcareous earth of any denomination, in sufficient quantity, will certainly cause any soil part with its stock of vegetable matter. If this is not replaced, by laying on dung, or some other decaying animal or vegetable substance, the land, by continued cropping, is rendered incapable of supporting vegetables, and becomes what is denominated a *caput mortuum*. The expense of lime is so great in this part of the country, that a dose large enough to have this effect is never applied. But, forty or fifty years ago, when shell marl began to be much used, it was, in many places, laid on with so liberal a hand, and the ground so over-cropped, that in a few years its vegetable powers were completely exhausted: and, for a great length of time, it did not acquire a sward, unless it got a copious dressing of rich dung. However farmers now manage better; and, by grazing and green-cropping,

cropping, they find that shell marl is rendered a most valuable manure.

Forty years ago, there hardly was any such thing as a prescribed rotation of cropping. The infield and outfield system was the only one known. There certainly was a necessity for landlords interfering in one shape or other; as the general principle on which most part of tenants acted, was, to crop the outfield with oats, till it was so exhausted, that the return was inadequate to the expenditure, when it was left untouched for some years, till it produced a dry hide-bound turf; while the infield was perpetually cropped; so that, though it received all the dung on the farm, the effects were not very beneficial, as the ground was always foul. But the case is now altered. Modes of rotation are inserted in every lease; and, in many cases, the theory of the landlord is no less injudicious than the practice of the tenant. Indeed, so intent are some proprietors on fettering their tenants, that it is not uncommon to take them bound to perform physical impossibilities;—such as, to lay a certain number of cartloads of dung annually on the fallow, or land prepared for green crop, when it is not in their power to procure half the quantity. And an absurdity equally glaring, and one that is very common, is the prescribing the same mode of management over the whole farm, though it consists of a great diversity of soils. There must be no difference in the cultivation of loam, clay, sand, and peat or moor, unless the tenant is willing to pay an *additional* rent—generally double the *ordinary* rent at least. *

No fixed system of rotation can be condescended on as prevalent in any one quarter of this county. Many of the small farmers, on ordinary land, still adhere to the practice of the old school, endeavouring to have a crop of oats or barley from every spot which will produce any thing like a tolerable one, holding turnips and every other kind of green crop in small estimation. More extensive farmers of such soils, frequently apply the whole,

* When reſtrictive clauſes became common in the leaſes of this quarter, the money to be paid for any deviation from the management agreed upon was termed a penalty. But in an action for deviation, Graham *a.* Stirton, which came before the Houſe of Peers *in forma pauperis* on Stirton's part, the Chancellor, Lord Thurlow, decided, that as the payment was ſtated to be a penalty, it could not be meant to exceed the amount of the damage which the farm had ſuſtained by ſuch miſcropping. This, of courſe, cut down the ſum awarded to very little, and much alarmed the landed gentlemen. However, they now take care to ſtate expreſsly, that the ſum ſtipulated to be paid, in caſe of croſs-cropping, is not a penalty, but additional rent, which it is optional for the tenant to come under or not.

or nearly the whole, of their dung, to raising turnips. Some overseers, whom gentlemen have brought from the middle counties of England, cultivate that crop in the broadcast manner; but the practice is not like to gain ground. Eating off the whole, or part of the crop, by sheep enclosed in nets or hurdles, is practised by a few; but the more common way is to draw the whole, and cart it to a stubble or grass field for store beasts, or to a fattening byre for bullocks. This last is especially practised in Strathmore, part of which extends into Perthshire. On some estates pasturage is a favourite system; the tenant being bound to have a large proportion in lea; and sometimes a field or two is reserved in perpetual pasture.

A dozen of years ago, the rotation followed in the Carse of Gowry and other wheat soils, was the well known six shift course,—fallow, wheat, peas or beans, barley, clover and ryegrass, oats; and it was long considered as the most advantageous that could be adopted on that kind of land. But, of late, methods are devised to have the wheat crop come oftener round. Sometimes the leguminous crop is thrown out, and the barley immediately succeeds the wheat; sometimes wheat is again sown after the green crop, especially if it is beans drilled, or tares cut green; sometimes the clover stubble is broke up and sown with wheat, either on one, or three or more furrows, according as a second cutting is taken or not; and sometimes the following rotation is adopted: 1st, Fallow; 2d, Wheat; 3d, Barley; 4th, Clover and Ryegrass; 5th, Potatoe Oats; 6th, Wheat. And so far are the landlords from checking this frequent recurrence of a wheat crop, that, in the last tacks, the tenant is only restrained from having more than a third of his farm under it.

On the Ochils, agriculture is nearly in the same state in which it has been for a century back. With many, the infield and outfield system is still in vogue; and an inconsiderable quantity of butter and skim-milk cheese, the produce of their half fed cows, brings in a little money in summer. It has already been stated, that most of the occupiers are feuers. Whether the backward state of agriculture in this district is a consequence of the low rent or feu-duty, I shall not presume to say. There is, however, one circumstance which seems to point that way, viz. that the most of improvements recently executed have been upon farms held under lease. But, in my opinion, the principal exertions have been made in a wrong direction. Many of those farmers who attempted improvements are from the Lower Strathearn and the Carse of Gowry, where they had been accustomed to consider wheat-raising as the chief object; of course, the small quantity

of dung that can be collected on the farm, is wastefully ex-ded on summer fallow for a crop of wheat, which, on this t soil, and exposed situation, seldom can be reckoned half a ldling one. The turnip husbandry would give far better re-ns. The stock is black cattle; but the land is particularly l adapted for a breed of fine woolled sheep, being, in general, en pasture of a moderate elevation. Limestone and coal are hin a few miles; and plenty of stone for enclosing may be got r the whole of it. By the proper use of these articles, winter p might be provided for the sheep stock, and the soil greatly iorated. Very little of the western Ochils is arable. The :k there is sheep; but, being all green land, considerable im-vement might be made by substituting the Cheviot, Lomond l, South Down, or some such valuable breed for the present :k-faced race.

The greatest improvement which the Highlands of Perthshire susceptible of, is a better provision for the sheep in winter, le the hills are covered with snow, and in spring, while the ewes yeaning, before the grass rise. But how this can be done, while arable land is parcelled out in possessions of six and eight :s, is difficult to conceive. Of this, however, we are certain, :h expense is annually incurred by sending the stock to the vlands during the winter months, and frequently much loss, leath, from cold and inanition, after their return. In spring, dark heath is often to be seen closely studded with their velled carcases. Forty or fifty years ago, every farm, even he Lowlands of Perthshire, without regard to soil or situation, a flock: even rich clay land, which, at present, will grow lve or fourteen bolls of wheat, was then a sheep walk. Had e been heavy sheep, which require good keeping, there would : been nothing susprising in this; but the breed which then ted in Scotland, was a fine-woolled, white-faced animal; ller, and handsomer than the broaked sheep. Some remnants his variety are still to be found in the county; and I do think, were they attended to, they might become valuable stock, ng equally fine wool, and much finer bodies, than the re-otable South Downs. But though every farm had a shep-, at a pretty high establishment, the flock was wretchedly aged; and though much fine land was depastured by sheep, as not given up to them till it was completely exhaust-y overcropping. As there were no turnips, and but little the sheep got not a mouthful of any thing in winter, ex-ing what they could pick up in the fields, of the coarse wi-d grass which they neglected in summer, and occasionally r colewort leaves, which they stole, by scaling the kail-yard

dikes; and for which they paid dear, being always hounded a good way off for each transgression. In spring, they were constantly employed running after the plough when it was at work, gathering the roots of spearmint, mugwort, and such weeds; a large stock of which was to be found in all arable land. Nor was any branch of the sheep economy better conducted than another. They were twice a day driven to fold, often at a considerable distance, and that frequently a standing fold, where they stood to their belly among their own excrements; and, as if there had been danger of raising the stock to a weight disproportioned to the keep, care was taken to stint the lambs, by milking the ewes every evening before folding. This is a scene which I well remember to have witnessed, more than thirty years ago, when a boy at school. The maids purposely delayed it, till after sunset, that they might have the assistance of their inamoratoes, the unmarried ploughmen, after they had pulled their stated number of backloads of thistles. The ewes were driven in a body into a bught, or small fold, whence they were taken individually, as wanted to be milked. It was then that the swain's assistance was of use. He dragged the reluctant ewe from the bught, and held her by the horns, while the nymph going behind her, abstracted, perhaps, two or three gills from her udder. Though a few minutes were usually sufficient for doing this, yet it seldom was performed, without something being added spontaneously by the ewe to the contents of the pail. The solid part swimming at top, the maid occasionally skimmed that off with her fingers. The more dilute excrement mixed with the milk, and, together with the yolk, and grease from the milk-maid's hands, no doubt imparted that gratefully pungent, aromatic taste, for which ewe-milk cheese then was, and still is so celebrated. And here, by the by, it may be remarked, that perhaps an improvement might be made upon the cow-milk cheese of Scotland, at present confessedly very ordinary, by a similar process. Perhaps some superior kinds of English cheese, that of Stilton, for instance, owes its exquisite flavour to some such management.

At present it is a matter of dispute among connoiseurs, whether the best way of improving live-stock be to cross the breed, or breed in and in. I shall not presume to interfere in the contest. I am only to observe, that our storemasters, forty years ago, always bred in and in. They would as readily have believed the most improbable tale in the Arabian Nights' Entertainments, as that one who had plenty of tups of his own, would pay another six hundred guineas for the loan of one for six weeks. They managed very differently. It was nowise uncommon for them to reserve

reserve such males as were too weak and puny for undergoing castration, to serve the females. This held, not only with regard to sheep, but even black cattle; and I have even known instances of such management with horses. Here was an evident saving at the outset; and the first advantage is, in many cases, the best. A good ewe with lamb, might bring five shillings, and a fat wedder six. Mutton, in retail, was from a penny to a penny and a half per lib.

There are now but few sheep kept in the Lowland division of the county; and the management of these is very different from that of former times. Forty guineas have been given repeatedly for a ram, during the season, besides the expense of bringing and returning him forty miles. The sheep always have good keep; in summer, a full bite of grass, and, in winter, turnips and hay if necessary. Excepting a few of the black-faced kind, kept by gentlemen for their own table, they generally are of the New Leicestershire breed. When this kind was first brought into the country, their mutton sold in Perth market a penny a pound higher than Highland mutton, merely because it was a scarce article; but the case is now so far reversed, that many people will not buy it at all. I lately knew of some scores of these sheep being sent from beyond Perth, first to Edinburgh, and then to Glasgow, before they could be disposed of.

There is nothing remarkable in the stock of black cattle. Although a good number are raised above what are consumed in the district (every farmer rearing a few), yet no extraordinary exertions are made to improve the breed, at least this is the case in general. Some years ago, indeed, a bull was brought from Devonshire, whose services were offered at three guineas a cow. But it will readily be believed, that he would not be much sought after, in a place where, only a few years before, they had been accustomed to have their cows brought into milk, for twopence halfpenny, or threepence halfpenny each. To be sure, we are told, that these Devonshires are kindly feeders, and that their beef brings a higher price in the London markets than any other breed in England. However, as a counterbalance to these good qualities, we find that they require better shelter than the greater part of our fields afford, where, nevertheless, our Highland breeds feel quite comfortable; that they will barely thrive on keep which will fatten the others; and that no beef is more esteemed, than that produced from a Highland stot, either in London or Rannoch. Bulls of the Teeswater and Galloway varieties, are likewise to be found among us; but it is merely because foreign fowls are thought to have fair feathers, that we prefer any of these to the West Highland breed. Cows of that stock are not

considered

considered as good milkers; but they are, at least, equal to the Devonshires or Galloways, in that respect. And I am confident, that were the best cow in Ayrshire, or Gloucestershire, carried to Skye, and obliged to brouse on heather in summer, and sea-wreck in winter, as the indigenous cattle are, they would produce neither milk nor beef. Their hides would soon go to the tan-pit. On the other hand, when cows of the West Highland breed are carried while young to good keeping, they are found nowise deficient as milkers, on farms where proper attention is paid to that matter. In symmetry of body, this breed is surpassed by none; in facility of fattening, and quality of beef, it is equalled by few; and, in hardiness, it excels all. Nor have I a doubt but that the day is fast approaching, when the West Highland, and Hebridian breed of cattle, will be as much sought after, as those of the counties of Durham, Hereford, Devon, &c. are at present. Formerly, the cattle stock in this quarter were very much neglected during winter, no provision of succulent food, nor indeed of any thing, excepting straw, being made for them. In the spring, this was particularly hard upon cows in calf. They were sometimes so debilitated as to be unable to bring forth, and frequently contracted diseases under which they laboured for a long time, and of which they never recovered. I well remember to have seen the poor wives, during the nipping cold north-east winds in May, provincially termed the *Cow-Quake*, tending their cows, reduced to a skeleton, and covered with a blanket, while they picked up any spires of grass which had begun to rise in the kail-yard, or at the bottoms of walls and banks. And to such extremities were they reduced at times, that I have heard of their taking the half-rotten thatch from the roofs of houses, and giving it to the half dead animal, as the means of prolonging its miserable existence. On this account, the half of them did not take the bull; and those who did, were too late for rearing stout calves. The yeld cattle, at same time, were so emaciated, that it was always the end of the season, before the heath and steril hide-bound leas, on which they depastured, brought them into such condition, as would now be considered but half fat. The working cattle were necessarily kept in better plight, by having a sheaf of unthrashed oats every day. Though much amendment has taken place by the use of turnip, potatoes and oil dust, a great deal still remains to be done. So long as milk cows are kept chiefly upon straw in winter, their produce in milk will be scanty, even in summer. Such management forms a very striking contrast with that of the Upper Ward of Clydesdale, and contermin-ous districts. There, even every cottager makes ample provision of hay for the winter keep of his cow; and in no part of Scot-

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land have I seen so valuable a breed of cows, or the labouring poor derive so much benefit from cow keeping.

Perthshire does not furnish a sufficiency of cheese for its own consumpt; and any that is sold, is only of an ordinary quality; butter, rather than cheese, being the object of those who keep cows. The economy of rearing stock varies on the different farms, according to their respective adaptation for corn or grass. On rich corn land, few cows only are kept; and as there seldom is any pasture, they are soiled, in summer, within doors, on clover. Their calves, and perhaps a few more bought in, newly dropt, are usually reared by hand. From these the stock of cows is kept up. The stots are sent to grass in summer, and kept in the straw-yard in winter, till three years old, when they are sold off. To assist in converting the straw into manure, a few more stots, two and a half years old, are bought in, at Michaelmas, and sold off, after being either one or two winters in the straw-yard. On corn farms, where pasturage forms part of the rotation, the same stock is kept the year round; selling off at any season, when they find themselves overstocked, if a market is to be found. On Highland grazings, the stock is kept without doors throughout the year, depending for winter food almost entirely on heather, or the coarse withered herbage which they rejected in summer, unless the snow lies deep, when they are often sent for a few weeks to the straw-yards, or sheltered pastures of the Low country. The surplus stock is usually parted with in autumn; the greater part at the Falkirk Trysts.

Our Low country does not produce horses in sufficient numbers for its own demand. Clydesdale supplies the deficiency. Since the use of two-horse ploughs have become common, our horses are improved in both size and figure, owing to the use of stallions from Yorkshire, and the west of Scotland. Their keeping and treatment, too, differs widely from what it was forty years ago. Now they are fed on peas straw, hay and oats in winter; and cut grass and tares in summer. Then they lived on straw, and on chaff mixed with the light grain boiled, in winter; and in summer, as they had nothing to do excepting to lead home the fuel, they were always at pasture in the day, and at night got a quantity of thistles thrown before them. A horse-comb was an implement hardly known. If, on extraordinary occasions, they got any currying, an old wool-card did mighty well. There is no peat in the south-east part of the county; and coal is twenty miles distant. It was then brought over land in sacks on horse-back, but latterly in carts; and the only provision that was made for the horses on the journey was a backload of thistles. Now, the greater part of the coal used by farmers is brought by water from

from the frith of Forth, and Newcastle; and the horses are employed in dressing the fallow and green crop. The Highlands formerly reared a great number of garrons, which were of little real use to any body. They traversed the fields the whole year round. During snow, they scratched the heather from under it; and I have often seen them, in frosty weather, beating the growing whins on the hardened ground, with their forefoot, and then eating them. They never were taken in hand by those who reared them, but brought in droves to Crieff or Strowan fairs; and when a purchaser pitched on one, two Highlandmen darted into the drove, and fixed, the one on the mane, and the other on the tail. The first prevented the astonished animal from rearing before, the other from kicking behind. By thwarting it in this manner, they soon succeeded in mastering it. Middling ones sold for 50s. to 60s. But it was no easy matter to take those animals away from the drove. None of them could be put into a stable any other way than by pushing them in backwards. Good keeping rendered many of them spirited enough; but, after being half starved for three years, few could be raised to a sizeable plough horse; therefore the trade is now much on the decline, sheep paying better.

Formerly many goats were raised in the Highlands; but their number is every year lessening, being found very destructive to the woods, and, in every respect, a more unprofitable kind of stock than sheep. But as there are a species of goats to be met with in other countries, whose hair is of very great value, perhaps it might be an object to try them in the Highlands of Scotland; especially as we know that some of them, the goat of Thibet in particular, thrives in a climate no less inclement. A nobleman tried the rein-deer, some years ago, in the Highlands, but the race became extinct. However, it does not appear that he ascribes the failure to the country, as I hear he is making a second attempt.

The Highlands have a peculiar breed of swine. It is a long-legged, lank-sided, high-backed, long-snouted, ugly animal, never rising to a large size. It is closely covered with a coat of erect bristles; is always in a hurry, and seldom out of one kind of mischief or another: being never seen, but either trotting from place to place, or turning up the earth, and seemingly always in a state of starvation. Indeed, were a personification of hunger wanted, I hardly know of a more expressive object than a Highland sow. However, those who are judges of good eating tell us, that Highland pork is more delicious (less nauseous, I suppose they mean) than any other.

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The difference betwixt our modern implements of husbandry, and those formerly in use, is not less than that of our live stock. The plough universally in use was the Scotch one—a clumsy instrument; but which did its work much better than a stranger to it could imagine. The wooden part of it cost about five shillings; and the share, coulter and hoop, which secured the mortise for the coulter, about three. In the Low country, it was always drawn by four, six, or eight oxen in yoke, and two horses. It is very evident, that the greater part of this force was expended to no purpose: the one half doing little more than counteracting the devious exertions of the other; and the slow pace at which it crawled along was such, as (without taking into the account the little work performed) no modern farmer could endure to see. Yet a farmer, who, at that time, should have set a plough to work with only two horses, would have been considered as on his last legs. Our Highlanders ploughed with four horses abreast, a driver going backwards before them, holding a stick in one hand parallel to the surface of the ground, to which the halters of the four horses, usually made of horse hair, or twisted *withy*, were tied; and in the other hand a whip or switch, with which he drove on such as did not enough exert themselves, by striking them in the face. This ludicrous practice is now much on the decline, and, in a few years, will, I trust, be extinct; two-horse ploughing being now universally in use in the Lowlands. The four-horse ploughs of the Highlands evidently took their rise from the subdivison of farms. It has already been said, that the land is occupied in townships, each consisting of one or more ploughgates. The greater part of these ploughgates are divided into halves, or quarters, and let out to as many tenants; some having a half, and some a quarter of a ploughgate, for which they furnish their contingent of men and horses; so that it is quite common to see a smith and a cooper, the one holding the plough, and the other leading or driving the horses, to-day; and to-morrow, a weaver and carpenter managing the same plough and horses, each decorated with the insignia of his respective craft. They assure us, that the trampling which the two horses on the right hand give to the ploughed land, is of great use, by compacting it so as to enable it to carry a crop. In some parts of the Highlands, they are of opinion too, that harrows with iron tines fret the earth so much, that it produces a less weighty crop when the seed is covered by these, than when tickled by wooden pins in place of iron ones.

The plough now used in this county is that termed Small's; but there are several varieties of it. In some parts the chain is still

still in use; but it is laid aside over the greatest part. The mould-board is more concave in some kinds, than in others.

Double-horse carts are now used in the best parts of the county; though many persons are of opinion, that one-horse carts are most advantageous. The small farmers in the upper part seldom put two horses to a cart. Forty years ago, there were but few carts of any kind. The dung was carried out in wains, each drawn by two oxen and two horses; the box of which was commonly a kind of basket work, sometimes of birch or hazle rods, often of straw ropes. The grain was carried to market in sacks on horses' backs. Little more than a dozen of years ago, nearly the whole grain in the Carse of Gowry, was carried to Perth, Dundee, or the several shipping places on the Tay, in that manner. A dozen or twenty horses in a trip, with each his four, five, or six firlots of grain on his back, and every two having a man to attend them, was quite a common sight. And, in rainy weather, it was frequently impossible, for weeks together, to carry it even in this manner. Turnpike-roads are now made in all directions, and two horses draw twelve or fourteen bolls of grain, or a hundred and fifty stones of hay, with more ease and safety, in any season, than they formerly carried ten firlots. Before these roads were made, coals were likewise brought on horseback from the pits in Fife. A sacking bag, slightly stuffed with straw, was laid along the horse's back. Eighteen Dutch stones of great coal, in a sack, were then laid across this; and, under this uneasy load, the poor animal was obliged to travel twenty, or thirty miles, without unloading, and without any food, excepting a handful or two of thistles.

In some places, a wheel-carriage, termed a tumbler cart, was in use. The wheels were two feet high, of solid thick ashen plank, and fixed on the axletree; so that the cart is not turned about without difficulty. I am not sure, but a specimen of this awkward carriage may still be found about Glendevon.

Thrashing machines are now very common in this county; so much so, indeed, that there hardly is a corn farm of fifty acres without one, driven either by horses, or water, or both occasionally; none with us being driven by wind, as far as I know. One reason why they are so numerous in this place, may be—the first one was invented and erected in Perthshire. I think I see you stare, Mr Conductor; but be not alarmed, Sir, for the honour of East Lothian. No one more highly appretiates the value of Mr Meikle's invention; no one more regrets, that he has not received that remuneration from the farming interest which he so justly deserves, and no one would more cheerfully contribute to discharge

charge the obligation which we are under to that eminent mechanic, than your humble servant. But the thrashing machine, to which I allude, is of the scutching kind. So early as 1758, Mr Stirling, farmer at Glassingal, in Strathallan, two miles above Dumblane, contrived this, and had it erected under his own eye. Unlike what happened with all former attempts at inventing a machine for thrashing, this succeeded; and, though its powers are by no means equal to what is necessary on an extensive corn farm, it has qualities peculiarly adapted for a small one. It is easily wrought;—one, or at most two, ordinary horses being sufficient. One man to feed, and another to take away the straw, are all the hands that are needed, besides the driver. It requires less room than the other kind; so that the small barns, on such farms, contain it; and its original cost is but little,—from 20*l.* to 30*l.* I have seen one driven by water, with an appendage for humbling barley, the expense of which did not amount to 30*l.* Indeed, there hardly can be a more convincing argument in favour of its utility, than its being in universal use among the small one-plough farms, which are so numerous in the south-west part of this county, and the neighbouring county of Stirling. Were a method devised, of adapting fluted feeding rollers to it, its value would be considerably enhanced; though there is a probability of its being soon entirely superseded by the lately invented cast-iron machines.

Formerly, the grain was thrashed, partly by barnmen, who received a twenty-fifth part of the corn for their labour, and partly by the ploughmen, in bad weather, and in the morning before breakfast, and frequently by candle-light, before day. At present, such farmers as are unprovided with a thrashing machine, find it difficult to procure servants—so averse are they to flail-work.

About fifty years ago, fanners were hardly known in this part of the country. A moderate, steady, fair wind was necessary for dressing grain; and much inconvenience, loss and distress was occasioned by a continuance of calm, stormy, or wet weather, before fanners were introduced. When this happened, the grain in the chaff was put into what were termed straw sacks. These were formed by coiling up a rope of straw, four inches thick, in some part of the barn, and throwing the chaffy grain into its area, as the rope was laid around. There it remained often for months together, till a fair wind came; during which interval, some person was constantly in waiting, on the lookout for the favourable gale; and when it did spring up, every other operation was laid aside, and the opportunity seized. This was particularly inconvenient at corn-mills, as the husks must always be blown off from the kernels, after passing through the mill, before it is ground into meal. At length the method of dressing grain by means

means of fanners, was brought into this country, it is said, from Holland. Farmers seemed much gratified by the facility with which they could, by their means, clean, and send to market their grain, at any time. An obstacle to the universal introduction of this practice arose, however, in a quarter whence nothing of the kind had been expected. A gentleman, who was proprietor of a considerable landed estate in the county, Incumbent of the quondam metropolis of the kingdom, * Principal of an University, or, at least, Head of a College, Professor of Theology, and Leader of a numerous body of Christians, 'lifted up his testimony' against the impiety of contravening the decrees of Providence, by setting in motion a portion of the atmosphere which had been ordained to remain at rest at the time. Anathemas were denounced with all the fervency of zeal, and force of expression, which distinguished the pulpit oratory of that gentleman against such as should persist in this course of iniquity; and cases quoted from holy writ, in which, for similar offences, the displeasure and vengeance of heaven had been manifested in a manner strikingly terrible. But the well meant warnings of this faithful watchman, received the same treatment which has awaited the admonitions of upright and holy men in all ages, but more especially in the present backsliding generation. Some trembled, and obeyed; but the far greater part scoffed, continued impenitent, and jeeringly alleged, that, as the corn-mills in that part of the world, were turned by water diverted from its natural channel, which must be no less offensive than impelling a current of air upon uncleaned corn, he ought, on the same principles, to interdict the use of meal ground in that manner, and insist on his followers adopting the scriptural method of grinding by querns; or else eating the grain kiln-dried as the ancients did, under the designation of parched corn. And so apt is sinful man to overlook his duty, when his interest is in the way, and so readily does the habitual practice of any sin sear a man's conscience as with a hot iron, that there now is no instance of a farm wanting fanners, and every farmer uses them without compunction.

The state of farm-steadings is much altered, especially in the low part of the county, from what it was forty years ago. In general, the dwellinghouse consisted of only a ground floor, with rarely a half story, and only sometimes a garret over one end. It was divided into several apartments by the furniture; but the divisions were seldom convenient, and far from being elegant, or decent. It bounded the north side of a square court. The

* At Abernethy

The stables and byres stood on the east; the barns on the west, next the stack-yard, each having two doors, one in the west, and another in the east side, directly opposite, for the purpose of admitting and emitting the wind, in winnowing. The south side of the square was frequently open. In the centre of the court the dunghill was placed, the verge of which not unfrequently extended close to, and sometimes within the threshold of the dwellinghouse door. In situations where it could be procured, the walls of the buildings were constructed of stone and mortar, of clay or loam, or of alternate layers of dry stone and turf: but in the clay soils, they were built of clay or mud. In the Low Country, they were thatched with straw and divot, or with reed; in the Highlands with heath. In a moist summer, I have seen a crop of oats or wheat come to maturity on the roof of one of these houses; and grass that might have been mown was not uncommon. Such buildings were continually needing reparations, and never were comfortable habitations. The windows had sometimes a few inches of glass, and often none at all. There commonly was a chimney in one end, often in both, and always a large funnel suspended over the kitchen fire-place, which seldom vented well. But now, the houses on every considerable farm have walls of masonry; and the most modern ones roofs of foreign fir, and blue slate. They are usually of two stories and a garret; and some of them conveniently, and even neatly fitted up within. The offices, too, are built in the same substantial manner, and more conveniently arranged than formerly. Less barn room is necessary since the introduction of thrashing machines; one barn being sufficient. The method of foddering cattle too in straw-yards, was formerly not in use; consequently, much more byre-room was needed than at this time: more especially, as the working oxen were kept till they were six or eight years old. The expense of buildings is commonly defrayed by the landlord, and the tenant taken bound to keep them in repair. There are, however, exceptions to this. Sometimes the tenant drives the materials; sometimes he pays five per cent. on the landlord's outlay: and I lately knew an instance, where the proprietor insisted on having seven and a half per cent. for what money he should lay out in building, and the tenant to uphold. This certainly is not a bad way of laying out money.

But though farm-houses are in general much more comfortable than formerly,—many of them neat, and some even elegant,—yet there are estates in the Upland, or Highland part of the county, on which much remains to be done in that way. On one very extensive estate, part of which lies in Aberdeenshire, no leases are given, and no allowance made for building. It is superfluous

to add, that not a house is to be seen on it, for perhaps twenty miles, fit for the residence of a human being, though the climate is the most stormy of any in the central Highlands. Having occasion, some years ago, to stop at one of these farm-houses, which, as it was likewise an inn, consisted of two stories, I expressed some dread of falling through the floor, and asked the tenant why he did not get the landlord to repair his house? The answer I received was, that he meant soon to repair it himself; but that the landlord would not allow two pence to repair a house on his property, though the tenant and his family should lye in the fields.

A considerable part, perhaps half of the arable land of Perthshire, is unenclosed; and the far greater part of what is enclosed is not fencible. In many places, where stones can be obtained at a cheap rate, the fence is a dry stone wall, frequently the Galloway dike. These are deemed sufficient enclosures: but a number of years being required to raise a thorn hedge into a fence, on the best soils; and much of our land being only of a middling quality, a nineteen years lease is barely sufficient for that purpose, even when carefully attended to; which seldom is the case. The tenant being strictly bound to pasture his fields, and no dead fence being formed to protect the young thorns, the depasturing stock never fail to break through in numberless places: and every farmer knows how difficult it is to bring forward these gaps with the rest of the hedge; yet this is the state of two thirds of the hedges in the county. There are two kinds of land, of quite different descriptions, on one of which the utility, and on the other the expediency of fences are problematical. The first of these is the rich soil on the rivers, continually kept in tillage. Here fences are of no use, as there is no pasturing: and they must be hurtful, by occupying part of such valuable ground. So, though there is a ditch or open drain at the end of every field in the Carse, few of these have banks, or are meant for fences. Indeed, so great an aversion have the farmers there to take up their land with fences, that, excepting gentlemens' parks, there hardly is one of any kind, on the sides of the turnpike road, which runs through the middle of that district, from Perth to Dundee.

Again, the propriety of enclosing heath and mountainous land, [illegible] value, is not very apparent; because, although, [illegible] doubtless is rendered more valuable, yet not in a degree commensurate to the expense.

The proprietor sometimes encloses, and sometimes the tenant; [illegible] are instances of the tenant agreeing to uphold, and [illegible] enclosures sufficiently fencible, and at same time pay [illegible] part of the expense of making them.

Fifty

Fifty years ago, there was little enclosed land in the county, excepting around gentlemen's houses; and even of that there was not much. Stock of all kinds was herded in summer; but when the corn was got in, every kind of animal went at large, and every field was common to the whole neighbourhood. This practice can hardly be said to be given up, in some parts of the county, even at this day: But in the more improved places, though there are few enclosures sufficiently fenced, every farmer endeavours to keep his beasts on his own possession.

Till within these twenty years, there were no turnpike roads in the county, excepting a few miles (nine or ten) from the county town towards Edinburgh. But, now, they are to be met with in the Low Country, in almost every direction. These, in general, have been lined out with judgment, substantially executed, and for the most part kept in a state of good repair. But the Edinburgh road, having been made at a time when more attention was paid to have a straight course than a level one, is the most inconvenient and dangerous up and down hill road that is any where to be seen; and as a very easy line was at hand, it is inconceivable what could induce the surveyors of those days to fix on the present one. So many of our roads being made turnpike, the gentlemen of the county have been enabled to appropriate the statute labour to the by-roads; and though much remains to be done on these, it must be granted, that this, together with the commutation of labour, has effected a great deal. Four lines of military road run in a south and north direction, through the Highland division of the county. Some, if not all of them, were made under the superintendance of the late General Wade. Of course, an equal disregard is paid to going to the bottom of a ravine, and over the top of a hill. But these being seldom used by heavy carriages, the inconveniency is the less felt.

Before roads were made, the county was in a state of which we of the present day can have only a slight conception. As the ways then in use were merely hollow tracks, every shower converted them into a pond, or puddle; and in many places, they were the beds of perennial rivulets. In the deep clay districts, it was often impossible to transport the produce of the country, either in carriages, or on horseback. Even in dry weather, travelling was extremely inconvenient, owing to the manner in which the mud was cut up and dried.

By means of the bridge built about forty years ago at Perth, over the Tay, the communication with the east and north parts is rendered much more safe and easy: and the one now building over the same river at Dunkeld, will have a tendency to render

travelling by the Highland road much more common than at present.

There is no market in this part of the kingdom where the grain to be sold is pitched. All sales are made by sample. Besides what is bought for home consumpt, and what is purchased for exportation by resident dealers, agents for corn merchants in other places, attend the weekly markets in Perth, and Inchture, a village in the Carse of Gowrie, and purchase from the farmers. The grain is usually delivered, from the farmer's sacks, into the vessel, at the several shipping places on the Tay. Most part of the barley, and some potatoe oats, go to the distilleries on the Forth. The wheat is sent to London, Leith, Glasgow, and even Liverpool. Formerly, the quantity of grain exported was inconsiderable; and there was an annual importation of oatmeal into the port of Perth from the shires of Berwick and Banff to a great amount, and of flour from London; whereas, now, Marklane receives large and annually increasing supplies of wheat from the Tay. Indeed, part of the barley now shipped is rather sent to be manufactured for our own use, than exported, as it is returned in the form of spirits, porter, and strong ale. Fifty years ago, little malt spirit was drunk, and no malt liquor was imported. But our fathers speak in raptures of the home-brewed twopenny of those days; and it must be admitted, that if it merited half the encomiums bestowed, it was a wonderful beverage, considering the price. They tell us that, for threepence, a strong-headed man was intoxicated; and that, if thrown into the fire, this ale blazed like ardent spirits. The surplus grain of the western part of the shire is sent over land to the manufacturing country on the Clyde.

I have known of a few cargoes of potatoes sent from Perth to Leith and Newcastle; but it certainly is not the best management to plant potatoes for sale on farms, without the reach of town manure.

There is a good deal of orchard ground in the Carse, chiefly apples and pears, which is found to turn to good account. A considerable extent of land along the northern margin of the Carse, and of the Lower Strathearn, being well sheltered from the north-east, might be very profitably appropriated to this purpose. Formerly, much more fruit was grown in the low part of the county than at this time; every religious house and every petty laird having an orchard; but these having come into the hands of farmers, were but ill looked after, and so have either gone to decay, or are completely grubbed up.

There is a great deal of coppice oak in this county; more, it has

has been said, than in all Scotland besides. This is principally to be found on the steep banks of rivers, and the skirts of mountains in the Highlands. It is said to be the most profitable use to which such land can be applied, since the price of bark rise so high. There is likewise some fir-wood, part fit for masts and boltsprits, in the remote places of the county; but the expense of conveying it to market, is a heavy drawback upon its value. The Low Country is at present more denuded of timber than it was twenty years ago, and than it will be forty years hence, when the young plantations shall have grown up.

The right of fishing for salmon in the rivers Tay and Earn, belongs to the proprietors of the lands on their banks; in general, each having a right to fish in that part of the river opposite to his estate. In many cases, these were formerly allowed to go as an appendage, in letting the adjoining farms. The fishing, which is by draught nets, was performed by the farmers and their servants, which was but bad economy; for the returns from the water, being much quicker than those from the land, were often most attended to. The proprietors, however, at length saw the necessity of making a different arrangement. The farms were let by themselves, and the right of salmon fishing on the several estates was let to other people, which, though disadvantageous when parcelled out among the adjacent possessors of land, has since been the source of some of the greatest fortunes that ever arose from trade in Perthshire. Of late years, the number of salmon caught within the county by draught nets is much lessened, owing to the stell fishings nearer the mouth of the Tay. The demand having at same time increased, the price has risen at a rate disproportionable to that of every other article. Forty years ago, the best fish (thirty to forty pounds weight) were readily parted with for one and sixpence a piece. They now bring twenty, frequently forty times the money. Formerly many were used in the country, even by farm servants: the remainder was sent in a fresh state, overland to Edinburgh. London is now the principal market, to which place it is sent in fast sailing vessels, part pickled, part fresh packed in ice.

The condition of farm servants, in common with most other classes of society, has been much ameliorated of late. The money part of their wages has increased in the proportion of eight to one, within the recollection of many persons alive; thirty pounds Scots as a year's wages for an able-bodied ploughman, being then as current as twenty pounds Sterling now. They victualled in their master's house, whether they had families of their own or not. Their daily bill of fare, was oatmeal porridge,

with milk or beer, for breakfast; broth, or soup made of greens, peas, hulled barley and oats, with, sometimes, butcher meat, or in default of that, salted salmon, butter, cheese, or milk, for dinner; supper consisted of porridge or sowens, i. e. oatmeal jelly, with milk. At present, unmarried ploughmen are always lodged, but not boarded. They receive, in place of board, six and a half bolls of oatmeal in a year, salt and milk. The allowance of milk being a chopin of skimmed, or half that quantity of new milk, thrice a day. When milk is scarce, beer or money is given in lieu of it; and frequently, when the farm is a led one, a cow is allotted for every three or four servants. Married ploughmen have commonly a cottage, and small garden, valued at thirty shillings; a cow kept the year round, worth six pounds; as many potatoes planted as may serve their family; six and a half bolls of meal; and the rest of their wages in money. In situations where the cow's milk can be sold new, her keep is worth double the money stated above. Their cottages, though of late years much altered for the better, are nevertheless susceptible of further improvement, by such means as ceiling, and plastering, enlarging the windows, and substituting glass for the boards presently in use, and by laying the floor with some more cleanly material than earth. Neat houses would in some measure help to introduce that cleanliness among the lower orders of our countrywomen, with the want of which they are at present reproached; a reproach which it is almost impossible for an inhabitant of the wretched hovels still standing in some parts of the county to avoid. If a married ploughman and his wife are at all industrious, and meet with no uncommon misfortune, they find little difficulty in bringing up their family in a suitable style. They are, in fact, in much more comfortable circumstances than a large proportion of the small farmers in the upland parts of the county, whose life is a life of anxiety, toil, and privation of all the comforts, and many of the necessaries of life. I cannot say that our farm servants are chargeable with that dissipated life which has been ascribed to their brethren in other counties. They certainly are the most sober class of men in the county; nor have they that pilfering disposition, which is so vexatious to the English farmers, whose servants having received no education, are ignorant, irreligious, and of course immoral: nor have they that rude, saucy manner which characterizes the ploughmen and carters around Edinburgh.

Farm labour certainly costs more than it did forty years ago, but by no means in proportion to the rise in wages since that time. This is owing to recent inventions and discoveries, by which human labour is facilitated and abridged. For instance,

a man and pair of horses will plough a third or half more in a given time, than two men, one pair of horses, and three pair of oxen did formerly. By one yoking or journey of a roller and pair of horses, more cloddy land is reduced, than by fifty persons with mallets, as was the practice thirty years ago. Fallowing, horse-hoeing and artificial grassing have superseded the whole summer's work of pulling thistles. The thrashing machine, by shortening barn-work, allows opportunity for ploughmen to perform many by-jobs, for which a labourer used to be hired; and the good roads enable one man to carry as much grain to market, as formerly could be done in the same time by four or six.

Owing to great diversity in the circumstances of Perthshire farmers, there is no general standard applicable to their character. Great part of the county is parcelled out into small farms, and there are very few which in Lothian would be reckoned large.* Many of the renters of small possessions, with their wives and children, are subjected to greater drudgery, and fare harder, than the families of farm servants on the richer soils of the county; yet, the ambition of being their own masters, induces them to persevere. The condition, however, of farmers, gradually and imperceptibly ascends from this, to that of those who live in ease and even opulence. Their manners and mode of living commonly correspond with their pecuniary circumstances. Some of the first rank, dress and keep house in a somewhat elegant style; and their social manners are every way fitted to their station. But, though they may not be destitute of the lighter accomplishments, few mere farmers among us have the advantages of a liberal education. We are not however to infer from this, that they are deficient in professional abilities. One of them was appointed to survey the counties of Kirkcudbright and Galloway; and though his report,† like that of some other surveyors whom we have all heard of, Sir, does not seem to have obtained universal approbation, this might be as much owing to the prejudices of the Gallovideans, as the 'haste' of the surveyor. Farmers of the middle class, though frequently unacquainted with the best modes of cultivating the soil, are possessed of a much

* The most common size, is that which requires two ploughs, the average extent of which may be about eighty acres. Some sheep farms in the Highlands contain several thousand acres. In the Carse are several farms of three hundred acres; but the greater part in that district are much smaller. And the average size of arable farms in Perthshire is much less than in the corn counties south of the Forth.

† See Far. Mag. vol. 8. page 76.

larger stock of knowledge, both general and professional, than their forefathers; and their mode of living is also much improved. Their houses and furniture are more neat; their dress more becoming; and their tables better covered. But, in one respect, there is a sad falling of: Religious controversy, and the investigation of abstruse points of faith, the favourite pursuits of our fathers and grandfathers, are now disregarded. Politics engross every body's attention, excepting perhaps several of the old storemasters on the West Ochils, with whom the opinions of the days of 'Cromwell and the Covenant' still predominate.

On the whole, Sir, though the present race of farmers in Perthshire, taken collectively, cannot in many respects vie with their brethren in the south-eastern counties of the kingdom, they certainly rank higher in the scale of society than those of some other counties do, or than their own fathers did.

The principal public burdens that affect agriculture, are, the statute labour, poor-rates, and the property tax.

The construction of good roads is always the first step towards the improvement of any country; and when the statute labour is commuted, and the money faithfully and judiciously laid out in forming and repairing them, it is so far from being a burden, that in no shape can so small a sum be more beneficially applied for the farmer.

Poor-rates have not hitherto been exacted in this county to a great extent; but the example of England ought to be a warning to us, and induce us to withstand any unnecessary extension of the system.

The property tax is a grievous oppression to the farmer, not on account of its amount, for, if equitably assessed, this mode of raising a part of the revenue has advantages over most others; but because the *data* by which his income is calculated, are unfairly assumed. No other class of men pay for income which they do not actually receive; but, in nine cases out of ten, the farmer's income from new tacks, is not half the amount at which it is taken by this law. Nor does there appear any good reason why the income of a merchant or manufacturer is not taken from the amount of his transactions, as well as that of the farmer; and why the farmer's real profits are not considered as a proper criterion by which his just proportion of this tax may be ascertained.

It is no less exceptionable on another account. Much has been said against the tythe system, and with great justice,—for of all absurdities, it is the most absurd; yet the property tax, though a modern regulation, has a similar tendency. Both operate as direct taxes on industry. In this, however, they differ: Any attempt

attempt to abolish the exaction of tythes would be opposed by all the weight of a numerous and respectable body in the state, whose inclinations the civil power has of late years shewn a strong disposition to gratify. But a reasonable modification of the property tax, as far as it affects farmers, we presume, requires only to be asked by those who feel aggrieved.

P—N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Preservation of Potatoes.

SIR, *Perthshire*, 1807.

I HAVE witnessed a practice upon inferior, but dry soils, in a climate rather late, which, I believe, may be useful to farmers similarly situated. It is a mode of planting and using potatoes, without the trouble of lifting and housing them in autumn.

It is well known, that the potatoe is a valuable and nutritious food for either cattle or sheep; and that feeding sheep with them is much safer than feeding cattle. They are planted, in the usual manner, in drills, about the ordinary distance; and if part are needed at home, the whole alternate drills may be taken up, or what number may be thought proper, and the earth of such drills, after being well cleared of potatoes, turned upon the remaining ones, any time before the frost, by two bouts of the plough for each drill. This will be found a sufficient covering for them during the winter, and will resist any degree of frost, so as to preserve them perfectly fresh and sound, and fit for either cattle or sheep. But sheep, from the foresaid circumstance, as well as from what follows, are by much the best stock for consuming them. For the farmer has only to turn out one or more drills by the plough in the spring *per* day, according to the number of his sheep, and they will follow the plough and pick them up, without any further trouble. It is only necessary to proportion them to the number, that none may remain, in case of frost through the night. This practice can only be profitably adopted where wheat cannot be raised to advantage. Barley or oats, are the crops conveniently cultivated in this case. According to this method, the root keeps better from springing than when in heaps, either in pits or within walls; and sheep can thereby be easily kept on till the grass in May.

If any of your readers think it worth while to try this mode of protecting potatoes from frost, and using them with sheep in the spring months, perhaps the above hints may be of some advantage. I am, Sir, yours, &c. OBSERVATOR.

P. S.

P. S. At planting, it is necessary to determine what proportion of the crop may be needed for uplifting in autumn;—as the part of the field which is not to be thinned, must be planted so wide in the rows as to admit a ploughing to earth up the drills.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR, *Receipt for Killing Rats and Mice.*

As rats and mice are very destructive to corn in all its stages, I beg the favour you will insert the following recipe for killing them, which I found among the papers of a late friend. I had no opportunity of trying it; but if any of your numerous correspondents will make the experiment (particularly that of preserving the corn in stacks), and communicate the result to the public through your useful Magazine, it will greatly oblige your constant reader,

Ross-shire, July 25th, 1807. A. F.

P. S. I should be glad to know the best method of destroying sparrows; these birds being eminently injurious to corn in hedged farms. A. F.

For killing Rats and Mice.—Take one pound of apuoka; boi it among two pints of sixpence beer into one; bottle it up; pu in one ounce of tincture of Valerian; and shake the mixture ever morning for a month. When you intend to kill rats or mice i a house, barn, kiln, miln, or granary, &c. put one ounce of th mixture among four pounds weight of oat meal, adding theret twelve drops of lemon essence. If you intend to kill mice, tak one ounce of oil of sasafrax, and put twenty drops thereof in th above. When you intend to attract the vermin, take one ounc of tincture of musk, and put in four drops among four pound weight of mixture, which will attract them to that bait. But i you intend to kill rats without mice, you keep out the musk And in preparing this thorough and genuine receipt for destroyin rats and mice, keep your head from above the stove, else it wil prove death.

For keeping Stacks clear of Rats and Mice.—Take one pound o nitre and one pound of alum; dissolve them together in two pint of spring-well water; get a firlot of bran and make a mas thereof, putting in two pints of the above liquid, and mixing al together. When you build your stacks, every second cours take a handful or two of said mash and throw upon them, til they come to the easing: allowing your stacks to stand twent years, rats or mice will not come near them. This is the genuin receipt for destroying rats and mice.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on the Inquiry into the Nature and Fluctuation of Corn Markets, &c.—p. 22.

SIR,

I COULD not help smiling at the formal pomposity with which your correspondent Gordius opens his 'Inquiry into the Nature and Fluctuation of Corn Markets,' &c. &c. inserted in the 29th Number of your excellent Magazine. Had the introductory part of that paper communicated a new discovery, of the utmost importance in the moral and physical world, it could not have been ushered in with greater parade than the long string of truisms of your correspondent. No Roman Catholic could count over his beads with more holy fervour than Gordius has enumerated these obvious truths. I was not, at the time of reading the paper at first, nor am I yet, prepared to take up the matter in a serious, or in a ludicrous point of view. If a man draws in his chair, and tells me, that food is of more consequence to me than a pair of pantaloons,—that bread is the staff of life,—and a thousand other articles of intelligence of a like nature, I would be at a loss whether to pity him for his silliness, or knock him down for his impertinence. My feelings, with regard to your respectable correspondent, were exactly of that description, at my first acquaintance with him; and it is needless to disguise the impression that his *exordium* made upon my mind.

Your correspondent informs us, 'that not only many of the commercial dealers in, but the actual propagators of corn, have been reduced to bankruptcy.' This is all very true; but why need he announce a fact of so much notoriety, with all the gravity and importance of an original discovery? Every trader is more or less liable to the misfortune of bankruptcy; and it need not, therefore, excite any surprise in the mind of Gordius, that a dealer in corn, who is nothing more than a dealer, should now and then be in a similar predicament. If, likewise, a corn merchant should sometimes make his appearance in the Gazette, I believe it will readily be admitted by most people, and even by Gordius himself, that the raisers of the raw material add less to the number of unfortunates than any other description of men.

It ought to be recollected, that the corn trade is the most extensive of any carried on in a commercial country. The dealers in it must, upon that very account, be more numerous than the dealers in any other commodity; and, *cæteris paribus*, bankruptcies must always be in proportion to the number of those who play the game. Why then should your correspondent express the smallest surprise, that the traders in that article should sometimes be reduced

duced to bankruptcy?—and ought he not rather to wonder, that this misfortune happens, comparatively speaking, to so very few?

Gordius says, 'Certain as the demand for it always must be, it is equally uncertain if the returns will be sufficient to replace the capital of either (meaning the dealers and farmers) with a profit.' Were it a matter of uncertainty if the returns from the corn trade would be sufficient to replace the capital employed, your correspondent may believe, that it would very soon cease altogether; or rather, that the word never would have had a place in our vocabulary. Individuals enter into, and carry on a trade with no other view, but that of self-interest: and, should they continue losers for any length of time, they will learn to abandon the further prosecution of it. No trade can possibly support itself, unless the dealers therein ultimately make profit;—and, as that of corn has been carried on from the very commencement of commercial intercourse, it must be, upon the whole, beneficial to the parties concerned. But, independent of reasoning altogether, is it not a notorious fact, that, though money has been lost by some individuals in the corn trade, many large fortunes have, on the other hand, been realized; and that scarcely a farmer, or, in the *elegant language* of Gordius, a *propagator* of corn, with common sense, and common honesty, ever has failed in his circumstances?

It may be very true that the corn trade fluctuates considerably; but fluctuation does not *peculiarly* belong to it, as asserted by your correspondent. The cotton goods of Manchester, the hardware of Birmingham, the muslins of Glasgow, and the cutlery of Sheffield, rise and fall greatly in their prices according to the circumstances of the times. The variation in the price of these different articles is not so striking as that of corn, because not of so indispensable necessity; but, that the fluctuations are in reality as great, cannot well be denied.

But, even supposing the price of corn to be as fluctuating in its nature as represented by Gordius, it does not necessarily follow that the trade is a losing one to the individuals engaged in it. By the very term *fluctuation*, if there be great falls, there must be great rises also in the price of the article; and a person may be a loser one day, and as great a gainer the other. Fluctuation, it is perfectly evident, cannot possibly exist without these ups and downs. There would be no such thing, if the scale remained for ever equally balanced. The two extremes, when condensed, form a medium or average which is truly to be considered as the price of corn to the consumer, and, in like manner, to the seller. A person may lose 20*l.* at a sitting at the gaming-table; but he knows

knows very well, that, if he plays with the same persons, and at the same stake, all the year round, he will be no great loser, if at all, in the end. It is just so with corn, and with all other trades. A person with the requisite capital, engaged in either, seldom loses much by a fall in the value of the commodity he deals in, as, at all events, he has an equal chance of advantage from a rise at other times.

It is said that the corn trade has one feature peculiar to it;—'it now and then presents *fit opportunities for speculation.*' I really was not aware, till now, of all speculation being confined within the limits of the corn trade alone, and that no person ever made large purchases of any other commodity with a view to a future rise on the price of that article. I had been accustomed to believe, that every trade presented more or less fit opportunities of speculation, from the very nature of the thing; and my belief never was attempted to be shaken, till Gordius promulgated his sentiments upon the subject. How so absurd an idea ever found a footing in the imagination of a person, in his own estimation capable of writing upon a question certainly of some difficulty, it is no easy matter to conceive. What would the merchants of Liverpool and Glasgow say, if your correspondent was to tell them, upon 'Change, that nobody ever speculated upon cotton or sugar?

It is a favourite argument with your correspondent, that, with the restoration of the blessings of peace to an exhausted world, corn 'will become universally plentiful, and consequently cheap.' That corn may then become more plentiful than it happens to be at present, I do not pretend to deny; but that this effect *must necessarily* follow from that event taking place, I by no means admit.

The causes stated as likely to produce this unusual plenty, are, the countenance and encouragement which agriculture receives from every true patriot; the withdrawment of capital from other branches, to be invested in the cultivation of the earth; and the improvement of immense tracts of waste ground, not only in this country, but on the continent of Europe. There can be no doubt but that the cultivation of a greater space of ground will produce an additional quantity of grain, and that even a greater quantity may be raised upon the same surface by superior culture. The causes mentioned by your correspondent, as likely to be productive of a greater quantity of grain, resolves into the simple truism, that if more corn be raised, there will be more corn. This cannot be denied; but other causes may come into operation, so as to derange the natural effects which this additional quantity of grain might otherwise produce. An increase in the human species, going hand in hand with

with this augmentation in the quantity of grain, or a greater consumption upon the part of individuals, might put matters, in regard to plenty, upon the same footing exactly that they were before the additional quantity of corn started into existence. It is obvious, therefore, that no argument arises in favour of a greater plenty of grain from an increased width of cultivation: a greater quantity will no doubt be produced, but that is all.

The term *quantity* of grain, is an abstract idea, isolated and totally unconnected with any thing else,—meaning a million, or any other supposeable number of bolls or quarters of grain. The term *plenty* of grain, on the other hand, is a relative idea, always in conjunction with something else; for example, with a greater or less number of consumers. Supposing one million of bolls of corn to be the produce of a particular district in the time of war, and that two millions are raised at the conclusion of hostilities, it is very plain, that double the quantity is raised. It does not follow, however, that the grain which, in the period of peace, has been raised in double the quantity, should be a whit more plentiful than it had been during the continuance of war. If either the consumption of the people be individually greater, from an increase of opulence among the consumers, or if there numbers be doubled, there cannot possibly be a greater plenty of this article than before.

Let us suppose, that the number of inhabitants of this country is ten millions, and that of bolls of grain to be five millions. At the conclusion of the war, we shall further suppose, that the grain, by a superior and greater width of cultivation, has increased in quantity to ten millions. Did the population of the country remain at the ten millions, there cannot be the smallest doubt, but that, upon this supposition, there will be a greater plenty of grain. But who is to arrest the increasing population of the country, and prevent the sum total of inhabitants rising from ten millions to twenty? If the population increases in this ratio, then the same proportion takes place as before, between the number of inhabitants and bolls of grain; and, of course, the same effect is the consequence,—namely, the same identical plenty of grain in both cases.

The population of every country rises or falls with the plentifulness of grain; and an augmentation of numbers is as necessary a consequence of plenty of provisions, as a decrease is that of scarcity. Experience and history teach us, that these two will for ever go hand in hand. With an addition, therefore, to the quantity of bolls of meal in a country, there will, to a certainty, be an increase in the number of mouths for the consumption of the grain. Your correspondent, however, seems to have overlooked [illegible] very obvious consideration; and while he took for

for granted an increase in the quantity of grain, he supposed the absurd anomaly of a limitation to the further increase of consumers. The five millions of bolls of corn had, during the war, supported a population of ten millions: for the same reason, and upon a like principle, the ten millions of bolls of grain will raise the number of inhabitants to twenty millions. Now, twenty bears exactly the same relation to ten, as ten does to five; and therefore, the relative quantity of mouths to bolls, is exactly the same, —or, in other words, the plentifulness. I make this statement in an arbitrary way, without any reference either to the actual state of population or consumption.

It would appear that your correspondent has either confounded the meaning of the term *plenty* with that of *quantity*, conceiving them both to be the same; or has taken the fact of 'universal plenty' for granted, without the shadow of a proof. The difference between the two terms is easily settled. A greater extent of cultivated land will produce a greater quantity of grain; but plentifulness, though it may happen to be, is not a necessary attendant upon an improved and extended cultivation.

It is asserted by Gordius, that 'our manufactures could not be carried on where provisions are dear, to the same advantage as where they are cheap. In our competition with other nations who possess such advantages, we would be cut out of every foreign market.' If the price of a yard of muslin depended entirely upon the price of meal,—if a yard of the former was two shillings, because a peck of the latter was one shilling,—then, of course, the muslin would be four, if the meal was two; and your correspondent would be in the right. But he ought to have recollected, that the price of provisions is not the only thing that enters into the price of manufactures. The machinery employed in the manufacture, the dexterity of the tradesman, and a thousand other particulars, affect more or less its price. If two workmen of equal dexterity, and without the aid of machinery, manufacture a particular article, then I am free to admit, that it must necessarily be performed at a less expense by the one who has food at the cheapest rate at his command. Other things being equal, dear provisions must necessarily produce dear muslins, or any other article of manufacture. But, on the other hand, if another workman has a double portion of dexterity,—or if he has the advantage of the assistance of machinery,—then he may manufacture muslins as cheap, if not cheaper, than the other. This is exactly the case with the manufacturers of Great Britain. Provisions are unquestionably more extravagant here than they are upon the Continent; yet, still, we manufacture every commodity which depends upon manual dexterity or machinery, much lower than they can possibly do in a cheaper country. According

cording to your correspondent, England, instead of being the seat of all the arts and manufactures which contribute to the conveniency or luxury of mankind, ought to be nothing but a deserted workshop. Really, it is incumbent upon people who pretend to reason in the face of common sense, to inquire a little how facts stand, before they insult the understanding of their readers. If your correspondent, instead of reasoning, had only opened his eyes upon the flourishing state of English manufactures, he never would have ventured upon an assertion so much in the face of all reasoning and fact.

It is said by Gordius, that 'by means of such rapid improvement in agriculture as is at present going on in Scotland, and will in that case take place also in England, there can be no doubt of our being able to meet the increasing consumpt, from any addition which can be supposed to take place in the population.' If the population of a country could possibly increase, independent of the abundance or scarcity of food, I should be exceedingly terrified at the supposed addition which nature in that case would make to the present numbers of mankind. Were we to suppose a growth of human population as rapid in England as it is in the newly settled parts of the Continent of North America, with the probable increase in the production of human food, a collision of a most dreadful nature would take place. There would, upon this supposition, be more mouths than food; and, of course, the consequences of such an inequality would be frightful even in idea. Did I think, as your correspondent does, that the feeding of a supposed population depended upon an improved cultivation of the ground, I should doubt much if the means were equal to the end. But the fact is, that gentleman has mistaken the thing altogether. He supposes that population *precedes* the food which is to support them, when it is most evident that the latter must go before the former. It would not be more ridiculous to figure a cart walking in the front of a horse, than to imagine that a human creature could possibly peep into the world before the necessary quantity of food was prepared for its subsistence. I have already demonstrated, and I need not do it again, that the two must, of necessity, always bear a relative proportion to each other, and that food is a power always retarding or accelerating the population of a country, according to its plenty or scarcity. It is for these reasons, and not from any dependence upon an improving agriculture, that I can contemplate an increasing population without fear or trembling. I do not feel any alarm for the supposed danger; because I am confident that, from the nature of things, it cannot possibly exist.

The cheapness or dearness of a particular commodity depending

ing upon a variety of circumstances which may or may not happen to exist, is not susceptible of so easy a solution as quantity or plentifulness.

The price of grain, and of every other commodity, is more or less increased nominally; of course, the value of money is depreciated by the taxes which at present bear so heavy upon the people of this country. As the *modus operandi* of taxes upon the price of commodities, may not be palpable to all of your readers, a few observations upon the present occasion may not be altogether improper.

Let us suppose, as unfortunately happens to be our lot, that three hundred millions have been expended in wars, which ministers, who never do fight, are ready enough to begin. This large sum is expended, and fifteen millions *per annum* must be raised to pay the interest of the principal. It has become a debt affecting the collective wealth of the nation, and, of course, that of every individual composing the great public body of the state. If a gallon of rum, part of this wealth, was, previous to the creation of this three hundred millions of debt, worth ten shillings, it will, after the imposition of taxes to the annual amount that I have mentioned, be of twenty shillings of nominal or money value. If this tax of ten shillings be removed, then the commodity which had been taxed will fall in price from twenty to ten, the price previous to the imposition of the tax. From these simple considerations we may learn the principle upon which taxes raise the price of commodities, and the mode in which the depreciation of money, another expression for the rise in the price of provisions, takes place. It is evident, from what has been stated, that when the real wealth of the nation, or the value of the commodities represented by the number three hundred millions, comes to be loaded with a debt of other three hundred millions, then what was, antecedent to that event, of ten shillings money value, must now rise to twenty. When money, in this state of things, goes to market, with the view of purchasing commodities, it must buy both the real price, ten shillings, and the tax, ten shillings, making together twenty. A shilling, therefore, goes only one half the length it used to do, and is worth only the sixpence of former times.

From what has been stated, it is evident, that, upon the supposition of a continuance of peace long enough to permit the present taxes to be removed, there must of necessity be a great fall in the nominal price of grain. But how far the political aspect of the present times authorises such a hope, I leave to your readers to judge for themselves. As war renders taxation necessary, it is the real cause of the rise we have seen take place in the

money price of grain. I conceive a state of hostility to
the nominal price of corn more legitimately in this way, th
the interruption of that trade with the Continent, arising no
out of the war. As war causes taxation, it also necessaril
unavoidably affects the price of corn; the latter flows st
from the former. There may be a state of hostilities, hos
without the shutting up of the ports of the Elbe, the Weser
the Ems; or this last circumstance may happen by the capr
the Prussian monarch, even in the midst of profound pea
think, therefore, that your correspondent, though he be pe
ly well-founded in the fact, of war affecting the price of
is not very happy in his illustrations of the position.

Although you, Sir, be of a different opinion, it appears
very plain, that the quantity of circulating medium of a co
may, in certain circumstances, be productive of a rise or
the price of grain. If the quantity of grain in Great Brit
six hundred millions of bolls, and the circulating medium the
number of pounds Sterling, a boll of meal may, with proprie
represented by a pound Sterling. If that medium be onl
half, or three hundred millions, then the boll of corn w
nominally worth ten shillings only. The circulating medi
the representative of the grain or other commodity; it
thing which a purchaser pays away, in order to procu
other, and must therefore be paid wholly away for grai
this be the fact, and I cannot conceive it admits of a doubt
six hundred or three hundred millions of pounds must b
before that a number of bolls of meal can be purchased.
circulating medium be the larger sum, then the boll of me
be twenty shillings; and, if the other, only ten shillings.
these short remarks before you, I hope you will be conv
that the quantity of circulating medium in a country must
the price of grain more or less.

In one respect, the existence of a greater quantity of gr
the market at one time than at another, and a decrease of
resemble each other, viz. in lowering the money or n
value of that commodity. If the grain be very plentiful,
necessarily be cheap; and if the specie be scarce, a pur
has little wherewithal to pay for it. Gordius, in men
these two circumstances, as affecting the price of grain,
to me to have had in his contemplation this point of
blance only, and to have overlooked a far more importan
If the cause of the high price of grain be the scarcity of
ticle, then the individuals of the country in which it take
must experience more or less the misery of want. On th
hand, if that circumstance be owing to a limited quantity

culating medium, the consumers may be just as well provided with this article as if it had been nominally cheaper from a greater quantity of specie. In former times, although meal was nominally much lower than it is at present, it was not the easier upon that account to be procured by the consumers. The tenpence, which bought the peck in those days, was perhaps as difficult to be got as the eighteenpence, the price of the peck at the present day, and therefore the then and the now consumers may be said to be upon a par in that respect. Your correspondent, therefore, when he attributes the same apparent effect, namely the high price of corn, to two separate and distinct causes, ought to have mentioned at same time the difference between the two. The reader will naturally suppose, that the two effects are exactly the same in their nature and consequences to the public, when they are indeed very opposite; and it would have been easy for your correspondent to have prevented every misunderstanding upon the subject by the little illustration of the characteristic difference I have taken the liberty of making.

'Every manufactured commodity (says your correspondent) must fall in price, *in spite of the value of the raw materials* of which it is composed, when a strong competition takes place among manufacturers.' The price of any commodity depends, no doubt, more upon the demand for it, and the quantity for sale in the market, than upon the original cost of the raw materials of which it is composed. If, therefore, there be a great quantity of any particular commodity, (or, in the language of Gordius, a competition among the manufacturers), and a small demand upon the part of the consumers, the price of that commodity will fall, and *vice versa*. Your correspondent, however, would fain make us believe, that this competition will go on for ever, and, of course, the fall subside lower and lower, when the fact must necessarily be quite otherwise. Competition is set on foot by the quantity of the commodity being less than the demand; and, of course, the moment that the latter comes to be replenished, the former ceases to operate. The fall, therefore, must stop somewhere; and the price of the article will again begin to rise from a decrease of competition, until the manufacturers get a fair and reasonable price for their work.

It is afterwards said by your correspondent, that 'the prices of grain will rise or fall without any regard to the *rent of land*.' It may be, that in a very plentiful year, or in particular circumstances, grain may be very cheap, though the rent of land may be very high. This, however, is nothing to the point, for the reasons I have already mentioned, to the satisfaction, I doubt not, of every one who takes the trouble of reading these remarks.

It is the previous price of grain which ascertains and determines the rent of land; therefore, no man in his senses will say, and yet your correspondent would insinuate as much, that the rent of land, which must and can be paid in no other way but by grain, will rise and fall independent of it altogether. The rise in the rental of the country, he may be assured, has its origin, among other causes, in the advanced price of grain; and, were that commodity to suffer a permanent fall, to a considerable extent, the rent of land would tumble in a similar proportion.

Your correspondent seems to think there is 'some reason to apprehend, that such a crisis (meaning that land has come to its height) may happen under such circumstances as we have seen markets liable to.' It is truly wonderful how alarmed some of our patriotic well-meaning people are about the fate of the country. The rise in the price or rent of land, is a circumstance that perhaps astonishes them more than any of the wonders of the present day; and they cannot contemplate its rapid growth within the last twenty years without at the same time prophesying its downfal within as many months. This is the sentiment of Gordius; and such has been the language of all our croakers ever since agricultural improvement began its career. Your correspondent, however, I presume, knows that the rent of land with us cannot fall, unless that of the rest of the world stands stock still; but he does not seem to be equally well acquainted with another fact, namely, that the rent of land in other countries keeps pace, in some degree, with that of Great Britain. If, therefore, Gordius begins to get alarmed with the monstrous increase in the rent of land at home, he may compose himself with the certainty that it is not idle in other parts, and that an universal sympathy in this particular pervades the most distant corner of the habitable globe.

He goes on, and says, 'we must allow that, keeping the population of the country *out of sight*, there can be no doubt the increased agricultural produce would soon exceed the consumpt, and overstock the present inhabitants; and, no doubt, population having *at least kept pace* with the means of supplying their daily wants, has been the cause of the prosperity both of trade and agriculture.' I really wish that your friend Gordius would attend a year or two at the school of common sense, before he again ventures to address the public. It is quite ridiculous in him to suppose, that the population of a country will stand still, while the means of subsistence are increasing; for, either more mouths will come into the world to consume this additional quantity, or the cultivators of the earth will put a stop to any further increase of that particular commodity. But the fact is, that, in proportion

as food is augmented, consumers will increase in point of nbers, whether Gordius will permit it or not; and it is there- worse than nonsense to suppose such an impossibility to hap- . He may be assured that these two things will always bear rly the same relation to one another at all times, and in all s of the world. But, at the best, his observation is no more a truism; for, if you increase food, and stop the increase of species, the former will become more, in proportion to the er, than it had been before. Why then did he take up the n of your excellent Magazine with such trifling as this? In same passage, he again falls into the error of supposing that ulation precedes the means of subsistence, while the fact is ctly the reverse. I shall not, however, again expose his er- eous views respecting this matter, as I have sufficiently enlarg- upon it already in a former part of this paper.

Again, it is stated, that 'should the war become general and dy, population would suffer in like proportion, and there- perhaps the present balance of food and population be main- ed.' This gentleman's ideas on the subject of population, are ill founded as any that I have taken the liberty of refuting. r, which is blamed for many evils that it never occasions, s not necessarily lessen what would have been otherwise the ulation of the country. It is very true, that many lives are in the field of battle, and upon the bed of sickness; but is no proof of any diminution in the after population. Sup- ng there had been, instead of hostilities, a profound peace, population of the country, from a want of an increase in the ns of subsistence, would have remained stationary, or nearly A war, however, breaks out, and a number of individuals a sacrifice to the ambition or folly of a ruler, be he royal or ician. What is the consequence? For a moment there is a inution in the population of the country; but, food now bear- a higher *ratio* to the number of inhabitants than it did before, ter encouragement is held out to the increase of the species; that increase accordingly takes place, upon the very obvious ciple which I have stated over and over again, that popula- is always in proportion to the quantity of food. Did the ns of subsistence decrease along with the inhabitants, then r correspondent would be in the right; but that not being the , the diminution which he supposes in the population cannot ibly take place in the common and ordinary course of human rs.

have to apologize for taking up so much of the space of your gazine, with the refutation of so very obvious errors as those ch Gordius has, in my humble apprehension, committed,

He tells us, that the thoughts in his inquiry 'are not common, nor are they in unison with the general sentiments of the present times.' Now, is not this the same idea twice expressed in different language,—the same character appearing at different times upon the stage, in dissimilar classes? If thoughts be uncommon, they necessarily cannot be in unison with the general sentiments of the times; for what has no existence, cannot possibly exist at all. On the other hand, were the thoughts of your correspondent common, they would necessarily be in unison with the sentiments of the public; for that is owing entirely to the commonness or universality of the doctrine. But he seems, according to my dull apprehension, to speak things that are very common, and in regard to which, there never has been, nor ever can be the smallest difference of opinion. What can be more obvious, or less disputable, than that 'commercial dealers in corn have been reduced to bankruptcy,' and a thousand other truisms, of a similar nature, scattered over every page of the inquiry? When he does presume to utter sentiments different from those generally entertained by the bulk of mankind, I am sorry to say, that he is for the most part ill founded in what he advances. Having already said so much, it would be improper for me again to go over the same ground. But, once for all, I would advise him to look a little into the science of political economy, which seems to have attracted little or none of his attention, before he comes again to the public bar. That the advice is called for, I have to appeal to the arguments in the former part of this paper; and I should be the last man in the world to bring forward a charge of incapacity against any of your correspondents, without at the same time presenting my proofs. I remain, Sir, Yours, &c.

Glasgow, 3d June 1807. A CONSTANT READER.

NOTE BY THE CONDUCTOR.

WHILE the Conductor accords in sentiment with '*A Constant Reader*' in most of the principles illustrated in the above intelligent communication, he feels himself obliged to intimate his dissent from the doctrine laid down concerning the degree of influence which the quantity of circulating medium has upon the price of grain, being fully satisfied that an increase of medium, independent of other circumstances, only enables the purchaser to buy at higher prices, when the quantity of grain presented for sale is below what is actually demanded. The Conductor therefore, adheres to what he stated in his Note upon the former paper, and believes that no man in trade maintains an opinion materially different in the way that this point is illustrated

it by 'A Constant Reader,' it would necessarily follow, the whole circulating medium of the kingdom is appropri- to the purchase of grain; and, were this the case, not a ot would remain, but that the plenty or scarcity of that me- regulated the market value of grain. Mankind, however, ag other articles to purchase with the circulating medium be- grain, do not give a halfpenny more for a bushel or boll called for by the actual state of markets, reserving the under for other purposes. This is so plain, that no illustra- is required.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

cription of a Thrashing Machine, recently invented in Perthshire.

or some months past, we have heard of a new kind of thrash- machine invented in Lanarkshire, capable of thrashing the of a middle sized farm, yet only costs twenty guineas, ch must be a considerable acquisition to those who oc- farms of that description. Another, no less useful for l farmers, has been invented in Perthshire. This is one e scutching kind, moved by water, which may be erect- or ten pounds. It consists of an upright axle, having cheks fixed across near the top, in the usual form; but, ad of having this axle turned by a pinion on its lower worked by a cog wheel on one end of a lying axle, on the r end of which was the water wheel,—this machine has no el at all,—only a number of pieces of plate iron, fixed on the mference of the lower end of the axle, forming radii all nd. These receive the impulse of the water through a gh; are fastened by having one of their edges inserted in a ve or mortise, cut about an inch deep into the axle, and aving a notch cut half an inch into both the upper and lower s of the plate, flush with the periphery of the axle; so that, a t iron hoop being put on the axle below the plates, its edge into the notch on their under edge; and another hoop se- s their upper edge in a similar manner. These iron plates about nine inches and a half in length, exclusive of that which is sunk in the wood; are eight inches and a half d at the end next the axle, and nine and a half at their ex- e ends. An inch in breadth of the extreme edge, is bent rned a little, like the side of a dripping pan, the better to ent the water from being dashed over at that edge: and, for ame reason, the upper edge is bent in the same manner, on-

ly the brim, or bent edge, is broader near the extremity of the plate than next the axle, being an inch and a half in the one place, and only an inch in the other. The lower edge is not bent. The plates, eighteen in number, are inclined forty-five degrees, i. e. they stand at equal angles between a perpendicular and horizontal plane. The water is made to impinge on them from a height of thirteen feet, at an angle considerably nearer a perpendicular. The axle is of oak, thirteen or fourteen inches diameter at the lower end, tapered to eight at top. It is evident from the size of the plates or blades, that the quantity of water necessary to drive this machine is but small; yet it is capable of thrashing from three to four bolls of oats an hour.

There can be no difficulty in adopting this invention to the drum and fluted rollers. I am, Yours, &c.

Perthshire, Aug. 1st. P—N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Concerning Free Martins.

SIR,

THE doctrine of free martins, i. e. that the female of cattle, when twin with a male, is incapable of propagation, seems to be strongly supported by the proofs referred to, in the paper of W. J. in your November number of 1806. If such instances are found to be so numerous as to establish a general rule, although some instances of the contrary may occur, it becomes necessary to adopt the doctrine as true, and not to reject it (as, perhaps, from my partial knowledge and partial attention to the subject, I have hitherto been disposed to do) as one of the many vulgar errors which have been long propagated, because never fully investigated. The object, however, is curious, seeming to point out an anomaly in natural history,—and, on this account, deserves the attention of your Magazine.

All I have to state, from my own knowledge, is as follows. On the 11th of November 1804, a cow of mine brought forth two calves, one a bull, the other a cow calf; and in spring last, the female twin produced a very good male calf. She had offered for the bull even earlier, but was not at first attended to. Yet, a neighbour of mine assures me, that a female twin belonging to him, never would take the bull,—and, at the age of four [illegible] sold on that account to the butcher.

I am, Sir, your very obedient, &c.

A. M.

FOR

FOR THE FARMER'S MAGAZINE.

Letters from a Young Farmer to his Father.—Class IV.

(Continued from p. 375. and concluded.)

ov. 4.—SINCE the finishing of harvest work, my squad has chiefly employed in cleaning out the stack-yard, casting furrows through the wheat lands, and turning dunghills, h are to be applied upon the clover stubbles. Some of my s have also, on different days, been with Fairbairn at the hing machine; as, besides seed wheat and horse corn, about hundred bolls of barley are already thrashed. In a conver- n lately with Mr Jamieson, I was made to understand that early part of the season was the fittest time for thrashing y, merchants being then better disposed to make purchases at an after period. Most of the straw has been stacked in the t or farm-yard, to be taken down occasionally for littering the ering cattle which were last week brought from the stubbles. y are divided into three lots, each of which occupies a separate , and have plenty of fresh oat-straw furnished to them four times y, it not being thought advantageous to keep a greater num- gether. Howard, who superintends the cattle and sheep rtment, tells me, that much of the after success depends arranging the different divisions, according to size and tem- and, in particular, upon keeping those that are polled, or out horns, by themselves. A pump-well is in each yard, h is a matter of importance. The forty oxen purchased at ummer markets are now put to the stake, and fed on tur- three men being appointed to clean and feed them, and to care of the hundred cattle on straw. Tups were put to the about fourteen days ago, in the proportion of one tup to ewes, and they are now ranging the clover stubbles. They been rubbed with tobacco liquor and turpentine, so as itch ab may be prevented.

he wheat seed is nearly over, all being deposited in the nd, excepting on that part of the field under potatoes last , to which Mr Jamieson wishes to give an additional furrow. it was sown after beans required a great deal of harrowing, re the surface was reduced sufficiently; but as fine weather ailed at the time, the work was accomplished in a satisfac- manner. Fifty acres of the clover stubble have likewise been ed with wheat, which will give three hundred acres under grain next year, viz. one hundred acres after naked fallow, ke quantity after beans, fifty acres after clover, fifteen after toes, and thirty-five acres intended to be sown in spring af-

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ter turnips. The clover stubble got a double time of the harrows, before the seed was distributed; and, being well laid over in the ploughing, little of the turf was drawn up in the harrowing process. Every field is neatly water-furrowed, and the cross and headland furrows completely digged and cleared out, so as water may run off without the smallest interruption. Hitherto the ploughs have gone two journies per day; but next week Mr Jamieson proposes to limit their work to one journey of five hours and a half, and to employ the ploughmen at any odd jobs about the homestead, after their horses are fodderred and cleaned.

Nov. 30.—The small patch of wheat after potatoes was finished a few days after the date of my last letter; since which, Elliot has been busy with the ground intended for beans, one half of which he has ploughed across, and the other he is now ploughing in length, intending to give this portion a cross-furrow in spring, preparatory to the drilling process. You will remember that I mentioned this plan in one of my first letters; and Mr Jamieson is resolved to give it a fair trial. There can be no doubt of success, provided the weather is dry at that season; but that provision must be risked, and indeed such risks are unavoidable in every branch of farm-management, where good weather is a necessary appendage to their successful completion. At all events, as the land is well gathered up, it must be much sooner dry in the beginning of spring than the field ploughed across the ridges, though the strictest attention was paid to water-furrow the latter in the completest manner.

A very considerable quantity of grain has been delivered to the merchant this month, three fourths of our barley being thrashed, besides several hundred bolls of wheat and oats. Fairbairn's people are seldom out of the mill, being either thrashing or dighting; and as there is plenty of barn-room, two pair of fanners are constantly employed when the latter operation is going forward. Hitherto, the working horses have been fed upon hay since the green food was finished; but now they are to be put upon bean straw, which is to be regularly tied up in bunches, under my direction, as it comes from the thrashing mill. Two [illegible] oats, of six pounds avoirdupois each, are given to every [illegible] per day; and, though lately hard wrought, they are in tolerably good condition. Mr Jamieson, about a fortnight ago, purchased four fresh horses, five or six years of age, to replace the like number that were getting superannuated, and informs me that he is always well satisfied when a greater supply is [illegible] required. He gave two hundred guineas for these [illegible] which will show you the extent of expense required

to

pport the tear and wear of his working stock. Few casu-
s or diseases have occurred since I came here, with this branch
s stock, and only one concluded fatally. This was with a
e affected with dry gripes, or belly ache, which ended in
flication, and killed him in twenty-four hours after he was
ck.

he turnip cattle are doing well, and regularly looked af-
As the field, whence the turnips are brought, is at a consi-
ble distance from the farm-yard, two carts are constantly
loyed in driving them home, with an additional number on
rday, so as Sunday's maintenance may be provided; but
Jamieson means immediately to store a considerable quan-
in the stack-yard, as a resource, should snow fall, or frosty
her set in; a measure, undoubtedly, of material importance.
nsider the expense of carriage home as not short of three
nds Sterling per acre, which in one respect might be saved;
the crop consumed by sheep on the spot; but then, how
in what manner would the immense quantity of straw on the
nips be converted into dung? Holding this important cir-
stance in view, the system adopted must be considered as
ly beneficial, even though attended with a heavy expense,
efore deserving of imitation. No turnips have as yet been
n to the breeding ewes; and I understand they will not re-
e any till the middle of January, unless a snow storm hap-
before that time.

ec. 18.—We were all much alarmed lately by a severe indis-
tion which attacked our worthy master; but providentially
e fears are now removed, by his complete recovery. On the
nd day of his illness, when a violent fever was dreaded by
medical people, he sent for his five head servants, and calm-
ated, that, being unable to give directions, he requested each
us to manage the work of his own department in the best way
ible, till the issue of his indisposition was determined; and
d, 'You all know my general intentions so well, and have
d so faithfully in my service, that I have the firmest trust
ters will go on much in the same way as if I were at your
e.' After signing a draft on his banker in favour of the clerk
one hundred pounds, out of which the working people might
aid during his illness, he shook each of us by the hand when
retired from the room, offering our earnest wishes for his re-
ry.

hat same evening we had a meeting in the clerk's office,
n, with a view to promote the interest of our employer, it
agreed upon, that Elliot should assume the general controul,
that each of us should submit implicitly, *ad interim*, to his di-
rections,

rections, in order that regularity might be preserved. Orders were therefore given out in the same way as if they had proceeded from Mr Jamieson himself; and so powerful is the force of former habits, that prompt obedience was given by every one to the orders issued, though it was well known Mr Jamieson had no hand in them. I will not say that the like obedience could have been long maintained, as probably the steady discipline exercised by Mr Jamieson, like the centrifugal force of a machine, carried the system on, even when the impelling power was withdrawn. Be this as it may, I rejoice that Mr Jamieson's recovery prevented the strength of our government from being ascertained. In four days, his disorder, which originated in a severe cold, took a favourable turn, and, on the eighth day of his confinement, we were admitted to his room. He is gradually getting better, though, hitherto, he has not been out;—a caution justified by the season of the year.

I have often reflected upon the critical situation in which the affairs of a farmer are placed, when he is confined to a sick-room, and cannot help thinking, that his case is then more to be lamented than that of other classes, when deprived of health and strength, and prevented from attending on business. The chance of loss from dishonesty and unfaithfulness in those employed, may be viewed as the same in every instance; but, laying these things aside, the nature of the farmer's affairs or business is such, that the best arranged system cannot be followed out, or carried into execution with the like precision or uniformity, as is perfectly practicable with a business carried on within doors. Hence in the first case, when the mainspring or impelling power is partially impeded, the motion of the small wheels is likewise irregular and disordered. To speak in plainer language, the propriety and expediency of every field operation depending upon the weather, mischief, instead of benefit, is often committed by the most active exertions, when not tempered by judgment. Not many led farms, as they are called, are therefore managed judiciously, except when committed to the charge of a servant qualified for being entrusted with discretionary management; and where such guide, the master's presence is of less importance. The same remark applies to farms possessed by widows, especially if they interfere in the executive department. Unless a very steady and clear-headed overseer is procured, it would, in nine cases out of ten, be more for the interest of those concerned, even for the landlord, that the farms were instantly subset, than to remain under the feeble management and imperfect husbandry generally exercised.

Dec. 30.—Mr Jamieson is now quite well, and has resumed his superintendance as formerly. I can assure you, that the resumption

sumption affords every one of us much happiness, on more accounts than one, because, during his confinement, we felt an anxiety not to be coveted. We have got thanks from him for our attentive management, as he was pleased to characterize it; and, what some people would consider as of more value, a guinea a piece to buy a new hat, as a compensation for extra trouble. I have intimated to him your desire that I should return home at Candlemas, which he kindly acquiesced in; and am vain enough to think myself now qualified, either to give you material help, or to take charge of a farm, should such be procured on my own account.

The land intended for turnips and beans, next season, is now all ploughed over, and Elliot is proceeding with what is meant for summer fallow; though, in my sight, this field does not stand greatly in need of that operation. It is better, however, to *keep* clean than *make* clean; therefore, as the field has run its course, a summer dressing must be highly beneficial. Mr Jamieson has repeatedly said to me, that in no way whatever can the same benefit be received from manure, as when applied to a summer fallow, because the pores of the earth are then open, and duly prepared for receiving a supply of nourishment; whereas, when laid upon grass or unploughed land, and turned in with a whole furrow, the ground is only partially impregnated by the manure. I think this accords with reason,—therefore felt surprise when I learned, that there is a set of agriculturists who decry summer fallow, as an unnecessary and useless practice.

We have got about two hundred cart loads of turnips home to the stack-yard, where they are built in a long stack, with an arched roof, and well covered in, for resisting the weather. The tops and tails were all cut away, and given to the wintering stock. I suppose the turnips thus brought home may answer for twenty days food; therefore, as snow storms are rarely of longer duration, little inconvenience can be sustained from hard weather. Besides, we have a large houseful of yam potatoes, which will make up for any after deficiency.

I mentioned before, that the bean straw is tied in bunches by a part of my squad, and lately had the curiosity to ascertain what quantity of ground was required to furnish straw, for one day, to the working stock; and the quantity of grain yielded from the straw of one day's consumption. I first inquired at Fairbairn, about the number of acres on which the contents of each stack were raised; and finding, on an average, that the bean stacks contained the produce of seven acres each, I kept an exact account of the bunches of straw; and the result was, that six hundred bunches, of one stone and a half, of 22 lib. avoirdupois each, were

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in the stack. Now, as I learned afterwards that the quantity of grain amounted to 63 bolls, of 4 bushels each, which was at the rate of nine bolls, or thirty six bushels per acre, and as the working stock (36 plough horses, and 4 old ones for driving turnips,) require 60 bunches per day, it appears, that a stack will suffice exactly for ten days consumption; that straw is used each day, which carried six bolls, one firlot, and three forpets of grain; that each bunch of straw yielded something less than one peck and three forpets; and that the extent of ground which produced the straw for one day's consumption, was seventy hundredth parts of an acre, Scotch measure. I have detailed these particulars, being sensible, that every thing favouring method and accuracy, is highly acceptable to you.

The machine thrashes the beans most completely;—indeed, not one pod is left unstripped of its contents: but in some cases it *hashes*, of course wastes, the straw considerably. Mr Jamieson says, that the saving from machines is much greater with wheat and beans, than with oats and barley,—the first mentioned grains being rarely clean thrashed before machines were introduced. The reason he assigns is, that unless sharp skutchers are constantly used, oats are seldom completely thrashed; and that barley, by reason of the long aun which adheres to it, is with difficulty prevented from going off amongst the straw. Indeed, he one day assured me, that a machine, to be perfect, should be provided with two sets of skutchers; one for oats,—and the other, more round, for wheat, barley, and beans. He added, that sharp skutchers do not suit wheat, as they cut the stalk over by the neck, and so occasion much of the grain to remain amongst the offal.

Jan. 16.—After two or three days frost, a heavy fall of snow came on last week, which, for a time, has effectually stopped field operations. All Elliot's people, and some of mine, are therefore employed in removing dung from the straw-yard, which is middened on the field intended for turnips; and, with every coat of dung, or, more properly speaking, unrotted straw, another of snow follows, which in my humble opinion, will have a powerful effect in hastening putrefaction; because, independent of all chymical reasoning on the subject, the snow will only melt in a gradual manner, thereby moistening the dunghill much more effectually than if the greatest quantity of water had been thrown upon it. Mr Jamieson declares, that he never saw a bad hill of dung, when mixed up with a full quantity of snow; and that this incorporation ought not to be neglected, when the means are gratuitously provided by the elements. I omitted to mention, that the turnip dung is also laid in layers upon the dunghill, and that

that the whole is carefully shaked and spread thereupon. We have already got out a large quantity, and, should the storm continue, the yards will be cleared. However, as there is an immense pile of straw in the centre yard, from which the places bared of dung are constantly covered, there will, in a little time, be as much accumulated as ever. About one third of the stack-yard is emptied; and, should the storm continue after the farm-yards are cleared, Mr Jamieson says he means to thrash incessantly till good weather returns.

My squad have partly been employed, for two months past, in cutting hedges, and some of them are remarkably dexterous at that operation. Mr Jamieson has all his hedges broad at bottom, and narrow at top; and in this way a fence is obtained, infinitely superior to the best stone walls. A very few years care, at the beginning, puts them into a situation for this mode of training; and, if that care is continued till they arrive at maturity, the after-expense is perfectly trifling. Many farmers, good in other respects, are careless and indifferent about their fences, and neglect to protect and train up what was originally planted at a considerable charge. Without entering upon the general question, viz. the necessity of fences in every case, all I would say, is, that where they have been reared, a suitable attention ought to be be bestowed upon them afterwards. Where a hedge is planted, it must be taken for granted that it was deemed necessary; therefore, neglecting it afterwards must be considered as unpardonable conduct.

The ewes have got turnips since the storm commenced, a part of the field being railed off, to which they are taken through the day, but at night they are removed to an adjoining park, purposely hained and kept rough for such an emergency. Here, by scraping, they contrive to get a tasting of food; and as they have a bellyful of turnips every twenty-four hours, their situation is tolerably good. One day we had to shovel the snow from the turnips, before the poor animals could get at them.—Only three out of twenty score, have died since they came to the farm, in October last. Mr Jamieson says, he has often suffered at the rate of five *per cent.* through the season.

Jan. 30.—I am now preparing to depart from a place where I have enjoyed much happiness, and seen a great deal of business; having little more to do, but to get the inventory of implements taken off my hand, and the several accounts due to the men under my charge examined and audited. These things, I confess, are absolutely necessary;—still they do not afford me satisfaction, because they remind me, that I am to leave the service of a gentleman who has uniformly behaved to me like a father, and that

I am no more to associate with fellow servants, from whom I received uncommon instances of friendship and favour. Duty to you, however, is a permanent principle in my breast; and, though feelings cannot be overcome all at once, yet still those, which impress me at the moment, will not, I hope, in the slightest degree prevent me from enjoying the like happiness at your fireside, as I have experienced in this hospitable mansion.

The day before yesterday Mr Jamieson sent for me from the field, and I waited upon him immediately. 'George,' says he, 'I am more at leisure just now than I probably may be at your departure; therefore cannot employ myself better than in giving you a few advices, which, likely, may be useful when you settle in the world, or in your passage through it afterwards. In the *first* place, let me assure you, that I am well pleased with your behaviour when in my service, because it has been steady, regular, and inoffensive; but on these points I mean to write my good old friend, your father, which will be more satisfactory to him than any thing communicated through your medium. In the *second* place, I recommend most earnestly, that you would take particular care of your conduct and behaviour when entering into active life, because I have known many young men get a character stamped upon them at that time, which no future alteration of conduct was capable of removing. Be consistent and steady therefore in your actions,—cautious in forming schemes and connexions,—but firm and determined in the execution. Think for yourself at all times; and, though it is often wise and prudent to refrain from communicating our thoughts to others, yet, at no time, act contrary to the dictates of your own mind, or resign self-government in favour of another, whose interest, and whose views, may have a contrary direction. A man who is sober, attentive, and of any strength of mind, will rarely go far wrong; at least, if he does, he will soon be recalled to duty, by the influence of conscience, that vicegerent of the deity; whereas the person, who is irregular in his conduct, and without principles to govern his mind, may be compared to a ship in a boisterous sea, unprovided with a helm: He is tossed to and fro for a few passing years, and finally wrecked upon the shoals of misery and ruin.

'In the *third* place, as a large share of every master's happiness, even of his professional character, depends upon the integrity and faithfulness of those below him, I cannot sufficiently recommend to your notice what may be called the economy of managing servants; because, by studying this art successfully, your own interest may not only be promoted, but also the welfare and comfort of the labourers in your service materially increased. Servants with all their imperfections, (and God knows no human being

being is altogether perfect) are rarely ſo bad as repreſented; and in many inſtances their defective conduct may be imputed, in ſome meaſure, to the maſter himſelf, in ſo far as he neglects to teach them their duty, or behaves to them with roughneſs or aſperity. When you, George, become a maſter, treat your ſervants with kindneſs; and I venture to ſay, that, almoſt in every inſtance, a ſuitable return will be experienced. The beſt ſervant may fall into error at a time; but when one of this character happens to make an unintentional miſtake, rather wink at the fault, than reprehend it in the manner too cuſtomary with many people. Depend upon it, more good may be done in this way, than by adopting a contrary conduct; that is, if the ſervant is gifted with the ſlighteſt portion of ſenſe and diſcernment. The thoughtleſs and profligate, I would not retain on any conſideration; for it is an old and a true ſaying, that one ſcabbed ſheep is capable of infecting a whole flock.

'*Laſtly*, I adviſe moſt ſtrenuouſly, that regular and correct accounts be kept of your whole proceedings. This ſyſtem of correctneſs I do not reſtrict to the mere articles of debtor and creditor,—a length to which every man goes who pays the ſlighteſt attention to the management of buſineſs; but extend it to diſburſements of every kind,—to the produce and ſales of your crop,—to the returns and profits of ſtock,—and to an yearly balance of your affairs. The pleaſure and ſatisfaction ariſing from theſe expoſitions, independent of their manifeſt utility, will afford a full compenſation for the trouble thereby given: and were I to add, that a daily journal of your tranſactions would alſo be advantageous, it would only be inculcating the utility of a practice conſtantly carried on at this place, ſince I entered upon farm management.

'Let me ſee you often here; and reſt ſatisfied of receiving my beſt advice at all times. If diſpoſed to write me, be aſſured that a ſpeedy anſwer ſhall not be neglected. I wiſh you well, and truſt the leſſons received here, will be of advantage to you afterwards.'

The foregoing contains the ſubſtance of Mr Jamieſon's advices to me, which I hope have made an impreſſion upon my mind, never to be obliterated. My correſpondence from Barnhill ſhall now ceaſe, as I expect to be with you in eight or ten days from this date; and to detail, more particularly than practicable upon paper, the many proofs of friendſhip diſplayed by Mr Jamieſon during the twelve months I have been under his protection.

I am, your dutiful Son, &c.

FOR THE FARMER'S MAGAZINE.

Observations on the Papers presented to the House of Commons, relating to the Experiments made for ascertaining the relative Quality of Malt made from Barley and from Scotch Bigg. Communicated by Dr SKENE KEITH.

INTRODUCTION.

THE Landed Proprietors of the County of Aberdeen, at their annual general meeting at Michaelmas last, requested the writer to give them his opinion on the subject of these experiments. In compliance with this request, he has examined the printed Report with particular attention, and drawn up the following papers.

1. Short account of the principal errors or defects in the late experiments on the different kinds of malt. * This short paper is meant for such persons as, from various causes, cannot enter upon a tedious discussion, and has been privately handed about among the author's friends.

2. Observations on the papers presented to the House of Commons, in 1806, respecting the experiments conducted at Edinburgh by Drs Hope, Coventry, and Thomson. These Observations were read at a General Meeting of the County of Aberdeen, called for the purpose of receiving them on the 23d of June 1807. As they are addressed to the County, they are drawn up in the first person. The writer considers himself alone as responsible both for the arguments used, and for the accuracy of the calculations.

He has also drawn up a particular examination of the Report, which will be published, or not, as circumstances may render necessary. It has been seen by Drs Hope, Coventry, and Thomson.

He here begs leave to observe, that, in pointing out what appeared to him to be errors, and sometimes errors of considerable magnitude, he does not in the least mean to detract from the character of any of those learned gentlemen, on whose experiments he remarks with freedom. He considers them all as men of science, and gentlemen of strict honour and integrity. In holding different interviews with Drs Coventry and Thomson, he met with every degree of candour; and he felt it his duty to submit to these gentlemen the two papers which are now published, and to avail himself of their corrections or explanations where the printed Report was not sufficiently explicit.

OBSERV-

* This account was inserted in Far. Mag. No. 31. p. 360.

Observations, &c.

The subject of these papers may be divided into the following branches.

I. The Order of the Lords of the Treasury for making these Experiments.

II. The Letter from the Commissioners of Excise in Scotland to the Lords of the Treasury, accompanying the Report of the Experiments, dated May 17. 1806.

III. An account of the different specimens of Raw Grain submitted to Examination.

IV. The Report of the Malting and Brewing Processes, by Dr Thomson.

V. The Report of the Distillation both of Malt and Raw Grain, by Drs Hope and Coventry.

VI. The Conclusion drawn by Dr Thomson from the Distillery Experiments.

VII. and *Lastly*, Dr Hope's Letter to the Commissioners of Excise, respecting his and Dr Coventry's reasons for stating, that the Malt made from Barley was only 8 *per cent.*, while Dr Thomson makes it 14 *per cent.* better than the malt from Scotch Bigg.

I shall consider these different branches in the order in which I have mentioned them.

I. As to the Order from the Lords of the Treasury to the Commissioners of Excise for Scotland:

Their Lordships order that the Board of Excise 'should direct a series of experiments to be made by the most competent persons that could be selected, for the purpose of inquiring into the correctness of the statements and calculations which were transmitted to them; and also that the Commissioners should report their own opinion, as to the precise proportion in which the quality of malt made of bigg is inferior to malt made from barley.'

I believe I need not remark, that the statements and calculations here alluded to, regarded *my evidence*, which was given before the Barley and Malt Committee of the House of Commons in 1804. But I must observe, that both their Lordships' Order, and that evidence, regarded only *the comparative value of malt* made of barley and Scotch bigg; and that all the experiments in distillation from *raw grain*, contained in the Report, were *unauthorized* by the Lords of the Treasury, and totally *unconnected* with my evidence before the Committee, as well as *foreign* to the question in dispute.

I shall only further remark, that as Drs Coventry and Hope differed in opinion from Dr Thomson, with respect to the proportion of inferiority of malt made from bigg, and as the Com-

missioners were ordered to report their own opinion as to the precise proportion of this inferiority, they ought, in their letter to the Treasury, to have taken notice of the different opinions of the learned Gentlemen, if they could not report their own opinion on the subject. This leads me to consider,

II. The Letter from the Commissioners of Excise to the Lords of the Treasury.

Here I would observe, that the conduct of the Commissioners was highly praiseworthy in selecting Drs Hope, Coventry, and Thomson, for superintending and conducting these experiments, and also for authorizing them to be conducted on a large scale, and in different premises, in which all the kinds of grain were to be subjected to similar processes.

But I cannot approve of their sending Mr Grant, general surveyor of Excise, to London to purchase English barley from the corn factors of that city, who were to be responsible for the quality of the grain which they sold, that it should be of the kind by which it was denominated, either 1st, 2d, or 3d qualities. Nor can I approve of similar instructions which were given to Mr John Anderson, examiner of Excise, for purchasing barley from the barley-raising counties of Scotland. Still less can I approve of sending a general supervisor, or supervisor of Excise, and a South-country farmer, to purchase bigg, only in the straw, from the farmers in the Northern and Highland districts of Scotland. A man of science ought to have examined all the specimens before they were purchased. And as Dr Coventry, the Professor of Agriculture, who is eminent in every branch of his profession, was one of the gentlemen who conducted the experiments, the selection of the samples ought to have been committed to him, or to some other man of science, in the event of his declining to accept the charge. An officer of the Excise ought also to have attended, for purchasing and identifying the specimens approved; and all the kinds of grain should have been purchased in the same manner. If this had been done, the different qualities of the grain would have been better discriminated than they are in this Report.

Owing to what I consider as improper instructions given by the Board, or to the incorrect way in which they were executed, there is too little difference between the best and the worst qualities of grain. And, what is yet more censurable, the heaviest barley in England, nearly 52 lib. per bushel, is called barley of the 3d quality; and the weightiest barley of Scotland, which was heavier than any English barley in the table of raw grain, is put in the list of 2d qualities. Had any previous examination been made by a man of science, such gross errors could not have happened.

[illegible] I [illegible] add, [illegible] to the same causes, *very little* [illegible] of inferior [illegible] lity [illegible] *purchased*; and *some of this was re-* [illegible] *ted*, though *bought* [illegible] *quality*, [illegible] perfectly fresh, though [illegible] grain. It is really unpleasant to [illegible] ell on this subject; but the results of the experime[illegible] so much upon the pro- [illegible] of the specime[illegible] ssible for me, and in- [illegible] ed, I think, it would have been dishon[illegible], to pass over what I [illegible] consider as improper [illegible] s of the Board of Excise, [illegible] the very hi[illegible] which I entertain for the [illegible] missioners.

III. As to the account of the different kinds of Raw Grain [illegible] mitted to Experiment.

I would here call your particular attention to a matter of the most importance, viz. the very uncommon season of 1804. In [illegible] year, English barley, from having experienced bad wea- [illegible] both while the ear was filling, and while it stood in the [illegible] after being cut down, was considerably below its average [illegible] in point of quality. On the other hand, the Scotch grain, [illegible] ether barley or bigg, was much finer than what it is on an aver- [illegible] of years; * barley being at least 10, and bigg more than 15 *per* [illegible] above its usual quality. Nay, those districts in which bigg generally worst, owing to the favourable weather during the [illegible] wering, the filling, and the harvest seasons, had really the best [illegible] in; while those in which the quality of bigg is generally su- [illegible] rior, in some cases suffered a little from the great drought, [illegible] had, in general, neither so great returns, nor so fine a quality [illegible] grain, as was raised in the other districts. Therefore, al- [illegible] ough the barley and bigg used in these experiments had been [illegible] specimens of the produce of that year, and although they had [illegible] en properly arranged into classes of 1st, 2d, and 3d quality; [illegible] although the malting, brewing, and distilling processes had [illegible] en conducted in the most unexceptionable manner, the results [illegible] these experiments could not have been applicable to that of [illegible] produce of barley and bigg *in ordinary seasons*. By the Corn [illegible] ct, barley of a middling quality weighs 49 lib. per bushel; [illegible] d bigg of the same quality weighs only 42 lib. per bushel. I [illegible] lieve that, on an average of seasons, this is nearly the true [illegible] eight of barley and bigg; and that Scotch barley, in general, [illegible] about 2 lib. per bushel less weighty than English barley; and [illegible] Scotch bigg is at least 4, if not 6 lib. less than Scotch bar- [illegible] As the experiments, which were conducted in Edinburgh, [illegible] intended to verify or correct those which I made in 1803, [illegible] must remark, that the specimens which I employed were three [illegible] Scotch bigg malt, one where the grain weighed only 36 lib., [illegible] another

* These circumstances were noticed at the time in the F. Mag.—*Conductor.*

another where it was 42 lib., both raised on my own glebe (parsonage lands), and a third where it was 46 lib. per bushel, the weightiest which I could procure of crop 1802. The only specimen of Scotch barley which I used weighed 48 lib.; and the two specimens of English barley weighed 51 lib. per bushel. But the average weight of the English barley, used in the experiments made at Edinburgh, of crop 1804, was about 49 lib. and 8 quarters of a pound per bushel, or, by the Brewing Tables, exactly 49.778 lib. This was a pound and a quarter per bushel inferior to my specimen of English barley. The average weight of Scotch barley, from a medium of nineteen kinds, was 50.067 lib., or two pounds and an ounce per bushel more than the Scotch barley used by me; and the average weight of seventeen kinds of bigg used at Edinburgh was 47.601. This was above 6 lib. and a quarter per bushel weightier than the average of the three specimens of grain used by me; so that there is no reason for supposing that the results of crop 1804 do in the least degree affect the credit of my experiments, which were made on the inferior grain of 1802. I have reason to believe, that Drs Hope, Coventry, and Thomson, will all admit, that the specimens used by them were not a fair average of the quality of the different kinds of grain in ordinary years.

But, unfortunately, owing to the instructions given by the Board of Excise for the purchasing of the specimens,—to the interpretation put upon these instructions,—to the mode of executing them, or to the improper arrangement of the different parcels of grain into classes of 1st, 2d, and 3d qualities, and then taking the medium of these three for a general average of each kind of grain, a number of errors have been committed, and very ill founded conclusions have been drawn. In the purchase of barley from four different counties in England, (or at least at Mark-Lane, under the designation, of belonging to four counties) *the best* English was considerably *more than a pound lighter* than the *best Scotch* barley; and the *worst* specimen of *English barley* was more than a *pound lighter* than the *average* of the specimens of *Scotch bigg*. The best Essex barley was only 48.4 lib. per pushel, and the worst 46.4 lib.; although, if a proper price had been offered to the farmers in Essex, barley of 53 pounds could have been procured in that county. Almost all the barley of 2d quality turned out worse than that of the 3d quality. Very little bigg of an inferior quality was purchased; nay, as already mentioned, some inferior bigg, although purchased as 3d quality, was rejected. It is well known to the county of Aberdeen, that when they offered to send to the commissioners of Excise three quantities of bigg, of crop 1802, and of the three different kinds used by me in my experiments, viz. of 36, 42, and 46 lib. per bushel, the offer of

this

this reſpectable county was *rejected* by the Board. It ſhould alſo be known, that the gentlemen whom they ſent to purchaſe the different ſpecimens of bigg, were *prohibited* from purchaſing any grain, except of crop 1804.

Further, the grain, when purchaſed, was not arranged into claſſes in any proper manner. I ſhall only notice a few of the errors in the raw grain tables of the Report.

1ſt Norfolk, 50.375 lib.; 2d Norfolk, 50.570 lib.; and 3d Norfolk, 51.937 lib. per buſhel. It is obvious that theſe numbers ought to have been inverted. The 1ſt ſhould be 3d; and the 3d ſhould have been called 1ſt quality. In like manner, 1ſt Kent weighs 49.877, and 2d Kent weighs 50.062: it therefore ought to have been reckoned firſt quality, and the other only ſecond.

In the ſame way, the weightieſt Scotch barley in the whole tables of raw grain, of 52.265 lib., is moſt improperly termed 2d quality. And Angus grain, of 49.312, is called 1ſt quality. Fife barley, of 48.703, is called 2d quality; and Fife barley, of 49.754, is moſt improperly called 3d quality.

Laſtly, Ayr bigg, of 47.953 lib., is called 2d quality; and Dumfries, of 47.5, called 1ſt quality. Many other errors might be mentioned.

Nothing can be more clear than that the different parcels of each kind of grain ſhould have been arranged in the tables of raw grain according to their weight per buſhel; and that they ſhould have been divided into 1ſt, 2d, and 3d qualities, either according as they were above, at, or below, the weights of middling barley and bigg, by the corn acts; or according to the ſeaſon of 1804: In which laſt caſe, one third of the number of parcels which were heavieſt, ſhould have been called 1ſt quality of each kind of grain; another third of the number of parcels of each kind next in point of weight to the former, ſhould have been called grain of 2d quality; and the remaining third, as being the lighteſt in point of weight per buſhel, ſhould have been called the 3d quality of grain. But the conductors of theſe experiments have paid no regard either to the weights of grain in the corn acts, or to that of the grain which they uſed of crop 1804.

I have been credibly informed, that the different kinds of grain, when purchaſed by the perſons employed by the Exciſe, were marked 1ſt, 2d, and 3d qualities, *according to the prices* paid for them, and *without regard to any other circumſtance*, except the prices. This was extremely inaccurate.

It was the more neceſſary to arrange the whole parcels of grain, and diſtribute them into claſſes, that this had not been attended to when they were at firſt purchaſed; and a particular account of every parcel ought to have been given in the Report. But we

have no account of the diſpoſal of the whole quantity of grain. Conſiderable quantities of malt are mentioned as uſed, of the malting of which there is no previous account; and the Report informs us, on the other hand, of ſeveral parcels of grain which were malted; but we know not what became of the malt. I have gone over the whole Report with great care; and only find accounts of the diſpoſal of about three fifths of the total quantity of grain. No doubt, the whole was uſed in theſe experiments; yet a general ſtatement of its diſpoſal ought to have been given in the Report. And we ſhould have had more confidence in the ſucceſsful experiments, if the unſucceſsful ones had been conciſely ſtated, though they had not been particularly detailed.

IV. As to the Malting proceſs, which falls next to be conſidered, ſeveral obſervations occur, which merit particular attention.

1. When the raw grain was put into the ſteep or ciſtern, the light corns which ſwimmed on the ſurface of the water were ſkimmed off; and all the ſubſequent calculations in the malting tables are computed, not from the quantity of raw grain thrown into the ſteep, but from the quantity of ſkimmed grain, which is called *the grain really ſteeped*. As the Scotch grain of crop 1804 was of ſo excellent a quality, it appears to me, that the ſkimming off the light corn was unneceſſary; and that the whole ſhould have been malted. But as the computations were made from the quantity of ſkimmed grain, the original weight per buſhel ſhould alſo have been retained; but the true weight of a buſhel of ſkimmed grain ſhould have been marked in a column immediately after the name of the particular parcel in the ſubſequent part of the Report. Owing to the neglect of this, Scotch bigg is ſuppoſed to produce about 1 per cent. of more malt than it actually did, compared to Engliſh or Scotch barley; and the quantity of malt from a pound of raw grain, and alſo the quantity of extract in the brewing tables from a pound of raw grain, are calculated from falſe data.

2. The Report, by the mode employed of computing averages, makes it appear that Scotch barley had the heavieſt ſwimmings. If the only correct mode of calculating theſe had been adopted, viz. dividing the whole weight of each kind of grain by the number of buſhels of that kind, it will be found that the ſwimmings of Scotch bigg, ſtated at 25.7 lib. per buſhel, were really 29.04 lib. per buſhel. Alſo, thoſe of Scotch barley, ſtated in the Report at 27.7 lib. per buſhel, were only 26.8; while the ſwimmings from Engliſh barley are 25.7 lib. per buſhel, as they are ſtated in the Report.

From this, it appears clearly, that Scotch bigg had been dreſſed to a higher pitch than either kind of barley; and as *its ſwimmings were nearly three pounds per buſhel weightier* than the ſwimmings of

[illegible] two kinds of [illegible] from the average of the [illegible] while the [illegible] was *two and a fourth lib.* [illegible] it is not improbable [illegible] the bigg had been more severely [illegible] in the cistern, and its [illegible] or light corn taken off [illegible] eagerly by the inferior oper[illegible] the raw grain of the [illegible] was either stirred or skimmed [illegible] I mention this last [illegible] for two reasons: [illegible] satisfied that the [illegible] gentlemen who super[illegible] [illegible] iments had no [illegible] in such improper cond[illegible] [illegible] ed: 2d, Be[illegible] in similar processes, viz. [illegible] raw grain through the [illegible], either *inferior* barley was [illegible], or, by some *unaccountable* [illegible] of the inferior operators, both Scotch and English barley [illegible] *lighter*, and Scotch bigg became *considerably heavier*, after [illegible] the operation of the fanners.

[illegible] next thing deserving of notice, is the inequality of time, [illegible] in steeping and in malting the grain. It appears to have [illegible] steeped, at all periods, from 44 to 119 hours. This was [illegible] means subjecting all the kinds of grain to similar processes. [illegible] experiments were to be made on the effect of steeping malt, [illegible] quantity of each kind of grain ought to have been divided into [illegible] equal parcels; one for being steeped a short, another for be[illegible] steeped a moderate, and a third for being steeped a long time; [illegible] such experiments, and their results, ought to have been kept [illegible] separate from the other maltings, and not allowed to be [illegible] with them, in calculating general averages. It is worthy [illegible] remark, that the best barleys, both of England and Scotland, [illegible] were steeped very long, neither made so much malt, nor [illegible] so much extract, as inferior grain that was only a mo[illegible] time in the cistern; which I consider as a proof of the [illegible] effects of steeping too long. Dr Coventry, I am informed, [illegible] from me in regard to the time of steeping malt. But we [illegible] differ on this point,—that what was steeped 119 hours, [illegible] not to have been classed with what was steeped only 44 [illegible]. Whatever experiments were made, with respect to the [illegible] time of steeping, to the number of days on the floor, to [illegible] different degrees of length to which the plumula, or acrospire, [illegible] be permitted to extend, or to any variations in the malt[illegible] process, those should have been arranged into distinct classes, [illegible] the results only of each particular class should have been [illegible] together. But I find, in the report, not only various pe[illegible] of steeping the grain intended for malting, but that the malt, [illegible] some cases, was only eight, and in others 20 days, on the [illegible]. Surely these maltings ought to have been arranged into [illegible] classes, and not confounded together, by taking the [illegible] from trials which were so very differently conducted.

But

But the greatest inaccuracy, in this branch of the experiments, consists in the very unequal degree of increase in the process of malting. I find Kent barley, weighing 49.75 lib. per bushel, *increases* above 11 *per cent.*; while Fife barley, of 49.744, or very nearly the same weight per bushel, is *made to decrease* from 100 to 91.52. The difference of result, in the malting process, between these two kinds, is above 21½ *per cent.* (a thing impossible, if the malster had done equal justice to both). I also find, that of two of the weakest biggs in the whole malting tables, one, viz. the 3d Kirkcudbright, which was the weightiest, *decreased* 5½ bushels in the 100; while 3d Aberdeen bigg, though lighter than the other, is *made to increase* 5 *per cent.*: this is a difference of 11½ *per cent.* in weak bigg. A multitude of other irregularities occur in the increase of bulk in the malting process.

I would further remark on this subject, that in the kiln-drying of the malt, there appears to have been a *very great difference* in the temperature of the kiln, or in the degree to which the different kinds of malt had been dried. I find that the bushel of 1st Suffolk, which weighed 40.56 lib. per bushel, had been dried in a *moderate* temperature; for it weighed only 41.75 lib., after it had lain several months, and was ground for distillation, or 1.19 lib. more than when taken from the kiln. But I find that the 1st Aberdeen bigg malt had been dried in a very high temperature, for it weighed exactly 39 lib. per bushel from the kiln; but when it had lain several months, and was also ground for distillation, it weighed 41.83125, or nearly 2½, exactly 2.83125 lib. (above 7½ *per cent.*) more than when newly dried. As the English malt, from better grain, had a smaller proportion of hull, and was weightiest when kiln-dried by nearly 1½ lib. per bushel, it should have become still weightier, in proportion, than the bigg malt: yet the latter increased, by lying some months, above 7½ *per cent.*, while the former increased only 2 9/16 *per cent.*, or 8¾ *per cent.* less than the lighter malt from bigg. This is extremely irregular; and yet these two kinds were used in the distillation of pure malt, without noticing the difference of kiln-drying, which was at least 3½ *per cent.*, or occasioned 3½ *per cent.* of more malt from bigg to go to a bushel.

Lastly, on this subject. If we look at the proportion of weight of malt to that of raw grain, we find that the weakest bigg in the whole malting tables, of only 44.086 lib. per bushel, produced .782 of a pound, or above 12½ ounces of malt; while the weightiest barley in the whole tables, of 53.09½ lib. produced .748 of malt, or 11 ounces 15 drams to the pound of raw grain. And the barley, which was next in point of weight, viz. 52.865 lib. per bushel, produced only .733 of a pound, or nearly 11¾ ounces of

of malt from the pound of grain. These results are impossible, if justice had been done to both in the malting process, and if both had been equally dry when taken off the kiln.

On the whole, nothing more irregular can be conceived than every branch of that process, from the steep or cistern, to the kiln-drying of the malt.

The Brewing process next demands our attention.

Here it is proper to remark, that there are a number of errors of calculation in the Brewing Tables. The very first quantity brewed, viz. 1st Norfolk, is said to yield, from every pound of its grain, .4485 of a pound of malt. According to the method of calculating adopted by the Report, it ought to have been .4954. This is a difference of .0465; or an error of above 10 *per cent.* in the first result. The 1st Haddington and Berwick is marked .4915, when, from correct calculation, from the data adopted in the Report, it ought to have been only .4657. Another parcel of the same is marked .4919, when it ought to have been .4659. These are great errors, in a most important part of the tables.

Indeed, the whole of the last column, though a very useful one, is calculated upon a wrong principle. All the *malting tables* are computed from the weight of skimmed grain, *after the swimmings were taken off.* But the calculator forgets this in the *brewing tables;* and, in order to find the extract from a pound of grain, he divides the quantity of extract in a bushel by the weight of the raw grain, instead of the weight per bushel of the skimmed grain: so that he both calculates upon a wrong principle, and commits several errors, in computing from false data.

But by far the greatest error in these brewing tables, as it goes the length of destroying all faith in the general result or quantity of extract said to be obtained from each brewing, deserves the most particular attention.

Dr Thomson has given us a table of saccharine matter, in page 48th of the Report, in which he shows the quantity of that matter, indicated by every degree of specific gravity. The brewing tables also contain the quantity of dry extract contained in the worts of every brewing; and also, in several of the brewings, the specific gravities of the worts, their weight per barrel, by Dring and Fage's saccharometer (as it is called in the Report), and the number of barrels of each kind of wort. Now, if Dring and Fage's saccharometer were correct, and if the gravities indicated by this instrument, and also the specific gravities, had been accurately taken, we should have three different ways of finding the quantity of solid extract, and these three should agree pretty nearly; but this is by no means the case. Take a few examples

of

of what the quantity should be, compared to what it is stated in the report.—

1st Brewing of 1st Norfolk. By computation from the specific gravities of the worts, it should be, [illegible].33
In the Report it is stated to amount to - - 1364.89

A difference by far too great in an experiment of this nature, [illegible].56

15th Brewing, 1st Edinburgh. Extract by computation, from the specific gravity of worts, is [illegible].16
By the Report it is stated to be [illegible]

The quantity of extract is therefore underrated by 15 *per cent.*, or - - - [illegible].35

19th Brewing, 1st Lanark. Computed from the specific gravity of the worts, is - - - [illegible]
In the Report it is stated at - - - [illegible].16

A difference of no less than 20 *per cent.*, or [illegible].47

The same, computed from Dring and Fage's saccharometer degrees of density, is - - - [illegible]

This is also more than is stated in the Report by 19 *per cent.*, or - - - - [illegible]

But in general, the quantity computed from the saccharometer degrees of Dring and Fage, is less than either that which is stated in the Report, or calculated from the specific gravity of the worts. Thus,—

The 4th brewing of 1st Norfolk, in the Report, states the extract to be - - - - - [illegible]
Calculated from Dring and Fage, it is only [illegible]74.89

A difference of about 16 *per cent.* - - [illegible]

The 32d brewing is stated in the Report to contain, of dry extract, - - - - - [illegible]
By computation from D. and F.'s instrument, it is only [illegible]

Difference no less than 15 *per cent.*, or [illegible]

The

The 48th brewing, Essex, is, by the Report,	1540.30
By calculation from D. and F.'s instrument,	1259.24
Difference, still greater, about 22 *per cent.*	281.06

It is farther to be noticed, that of 53 brewings (all that are recorded in the Brewing Tables), the specific gravity is only taken of 36; so that, in fact, we have no data for computing the quantity of extract in 27 brewings, or for checking the results in the Table, by computations from the specific gravity; and it may be remarked, that the specific gravity of worts, from *bigg malt of the 2d quality, has not been taken at all.* The saccharometer degree, according to Dring and Fage's instrument, is taken in all the worts of only 39 brewings. And of the whole 53, only 17 brewings have both the specific gravity, and the weight of all their different worts, by Dring and Fage's saccharometer, marked in the Report. Therefore, we have correct data for ascertaining and checking, in different ways, the quantity of extract in these 17 brewings only.

It would be uncandid not to mention, that I have every reason to believe that Dr Thomson, who drew up these tables, is not in the least to blame for not marking, in every case, the specific gravity of the different worts. The brewings were carried on in three distinct breweries; and Dr Thomson could draw up his Tables only from what materials he received. I understand that most of the brewings from Scotch bigg were conducted in the same brewery; and that the greatest deficiency, in marking specific gravities, was in this brewery. The marking, either this or the weight of the worts, by Dring and Fage's instrument, ought not to have been left to any brewer or inferior operator. I wish, however, to be understood as not blaming any person, but merely to state (what I believe is the fact), that Dr Thomson is not to be blamed for neglecting to record what he did not receive.

I must desire particular attention to another important circumstance.—What is called, in the Report, Dring and Fage's saccharometer, is, in fact, Mr Clark's hydrometer for worts. I do not mean to quibble about the name of this instrument; but merely to state, that in 1745 Mr Clark invented it, many years after his hydrometer for spirits was introduced; and that his brother-in-law, Mr John Dring, afterwards improved this instrument in 1779, as appears from a small pamphlet of Mr. Dring's, printed in that year, and now on my table. This instrument, even when improved, was not contrived to indicate a certain number of pounds per barrel, of dry extract, or of what has been improperly

improperly called saccharine matter; but was made, according to an arbitrary scale of Mr Clark's, for distinguishing, as well as he then could, the different strengths of wort. It was not till 1785, that the ingenious Mr Richardson of Hull introduced the term saccharometer, after weighing an half barrel filled with water, and then contriving an instrument that should indicate the number of additional pounds per barrel, which any wort weighed more than the weight of water; and which additional weight he, not very correctly, termed *Saccharine matter.* As Dring and Fage's instrument was made on a different principle, and indeed upon a somewhat arbitrary scale, the method adopted in the Report, of multiplying the number of pounds according to that instrument by 2.55, to ascertain the number of pounds of solid extract, could only be correct in a single instance; and therefore, all the computations of extract founded upon that proportion or relation to a pound of D. and F.'s instrument, are made from false data. I find, that of 27 brewings, where the gravity is marked according to this instrument, it is in *three* cases *much overrated*; in a very few cases near the truth; and, in a great many cases, from 15 to 25 *per cent. below the quantity* of extract, as ascertained by the specific quantity of the worts. On the whole, therefore, it is obvious, that no regard can be paid to the quantity of extract stated as *the average* of the different kinds of malt in these Brewing Tables.

But still if there were no objection to the results, or to the different quantities of extract stated in the Report, the calculations founded upon them must be regarded as extremely inaccurate. For, owing to the very erroneous method of dividing each kind of grain or malt into 1st, 2d, and 3d qualities, and computing averages from *unequal numbers* of parcels, also *improperly arranged*, the comparative value of the malt made from bigg compared to malt from barley, is *much overrated*; and is, by Drs Hope and Coventry, estimated at only 7 *per cent.* less than that of barley; when, by computing from the average taken from the *whole* extract per bushel, of *all the parcels* of each kind of grain, it is above 10 *per cent.* inferior. —This is a great error of calculation in a national experiment.

Lastly, on the subject of Brewing.—As much more water was poured upon the bushel of bigg malt, than upon the malt of either Scotch or English barley, it deserves to be particularly attended to, that if the great quantity of water in brewing had been duly proportioned, barley would have been 20 *per cent.* superior to bigg.

Instead of proportioning the quantity of water used in brewing to the weight of the different kinds of malt, deducting that of the husk, the bushel of Scotch barley malt, which, at an aver-

age,

, was 38.898 lib., contains only 14.59 gallons of worts. That English barley, which at an average weighed 37.04 lib., con- ed 14.76 gallons of worts; while the bushel of Scotch bigg, ich weighed only 36.492 lib was so much diluted by water, t it contained 15.27 gallons.—This was an error of the great- magnitude; for, taking into the account the difference of weight per bushel, and the greater quantity of husk in bigg n in barley, the malt from Scotch barley ought to have had 74 gallons, and that of English barley 15.88 to the bushel. s but fair to add, that I am informed there was no design in disproportion of water poured on malt from bigg. It seems, st of the bigg malt was brewed in one brewery, where the wer used much *more water* than was used in the other two weries; and I am informed, also, that this water was *softer* n the water in the other two places: so that the Scotch bigg both more water, and that water too a more powerful solvent, searcher of the malt. I approve much of the experiments ng made in different premises: but an equal quantity of each d of malt should have been used in each brewing; and the ductors should have sometimes exchanged places, and always iged the brewers to use duly proportioned quantities of water. It would be invidious to point out all the impossible results ich have been occasioned by taking incorrect gravities of the rts, or where the inferior operators, by using very unequal l disproportioned degrees of dilution, have misled the learned ntlemen who conducted these experiments. I shall select only *ew* out of a great number.

1st. 60 Bushels of the best Scotch barley, viz. Haddington l Berwick, of 53.093 lib. per bushel of raw, and 53.458 lib. skimmed grain, (containing 2376 lib. of malt from barley,) duced, according to the Report, only 1475 lib. of dry extract. o 60 bushels of the next best Scotch barley, called 2d Had- gton, (weightier than any English barley in the Tables,) pro- ed, from 2237.88 lib. of malt, only 1319.84 lib. of extract; l another brewing of this malt produced still less, according the Report: while, on the other hand, 67½ bushels of bigg lt, weighing in whole only 2375.35 lib., produced 1481.78. this rate, the Scotch bigg malt of the worst quality, and having greater proportion of husk, produced more extract from the nd of its malt than the two kinds of malt from barley, of the t quality in Scotland; and much weightier than any of the glish barley of 1804, which appears in this Report.

When we see, both that a greater weight of malt was made m the worst bigg than from the best barley, and, still more, en we see that a pound of this malt from bigg, of only 44 lib.

per bushel, is made to produce *more dry extract* than a pound of malt from the *best barley* in Scotland, from 52.265 to [illegible] lb. per bushel, it is impossible to pay *the least regard to such results, when the quantity of dry extract is the only point under consideration.* If the causes of these impossible results be inquired into, we may ascribe them partly to unequal periods of steeping; to an ill conducted malting process; and to disproportionate degrees of dilution:—and we may also impute these gross errors to inaccurate measures of malt, or incorrect weights of the specific gravity, or to unequal degrees of mashing the grain. But whatever be the cause or causes, nothing can be more clear, than that, in any well conducted series of experiments, these results are impossible, or could not have existed.

If any thing were necessary to be added to this argument, it would be, that the comparative value of different malts can be ascertained only by distillation, as Dr Thomson candidly admits. The brewery, in the best conducted process, does not afford correct data for deciding this question: much less can these brewings afford such data.

V. It is therefore to the distillation of the different kinds of malt that we must have recourse, as the only correct rule for ascertaining their relative values.

Several important facts here demand our particular attention.

1st, The attempting to ascertain the relative quality of different malts, by distilling mixtures of malt and raw grain, is in every view censurable. It was going beyond the order of the Treasury;—it was not a fair nor a correct mode of ascertaining the relative qualities of the different kinds of malt. The unequal attenuations of wash from raw grain, compared with that from malt, prevent us from comparing two things which are of different natures, although the quantity of water had been duly proportioned in both cases; and though there had been nothing exceptionable in the mode of conducting these experiments.

2dly, The method of carrying on the process, or of executing this part of the experiments, is liable to many objections. The raw grain of barley, after being put through the fanners, was lighter, not only than the skimmed grain of the same denomination used in malting, but even lighter than the raw grain before it was put into the steep. And the raw grain of bigg was weightier than even the skimmed grain, after the swimmings in the malt cistern were taken off; and considerably weightier than the raw grain of bigg used for malting, before it was put into the steep. I consider the raw grain of barley, used in distillation along with malt, as 4 *per cent.* worse; and the raw grain of bigg as 8 *per cent.* better than what was used in the brewery. The weights of the different kinds were these.—

Average

Average of English barley—Steeped 49.778. Skimmed 50.390 After fanners 49.722.
——— of Scotch barley—Steeped 50.067 Skimmed 50.484. After fanners 50.046.
——— of bigg — Steeped 47.601. Skimmed 48.149. After fanners 48.401.

It is impossible, that if the same quality of grain had been used in the steeping and distilling processes, and if any sort of justice had been done in passing the different grains through the fanners, that the barleys could have become lighter, and the bigg heavier, by the same operation. Therefore, there must have been a different quality of raw grain used in distilling.

It is here also deserving of attention, that two bushels of raw grain were used to one of malt, without regarding whether the malt had increased or decreased in the process of malting. Twenty bushels of malt were mixed with 40 of raw grain in every brewing. These 20 bushels sometimes contained less than 18 of raw grain, and sometimes they contained above 21. By this means the quantity used varies with every experiment; and no well founded conclusion can be drawn from any of those trials.

It ought likewise to be particularly noticed, that in fifty brewings of raw grain and malt for distillation, the grist or mixture of malt and raw grain got about one seventh less water than the same measure of malt, though, as it was weightier, it ought to have got considerably more than the other; and that the Scotch barley, in only one single instance out of fifty brewings, got a fair proportion of water poured upon it, while in every other case, Scotch bigg got considerably more than its proportion of water, and, of course, was both better searched in brewing, and better attenuated in the fermentation.

If any thing were wanting to complete the absurdity of this mode of proceeding, it would be the making false calculations from the experiments. To save a little trouble in calculating the results, the reporters take the *general proportion* of malt to raw grain in *all* the *different kinds* and *qualities* used, instead of being at the pains of calculating from the *proportion of raw grain* in *every individual experiment*. This is extremely incorrect in a set of national experiments.

In distillation, much more water was used in these experiments than in the brewing process; and therefore, the quantity of extract should always have been greater; yet it is sometimes said to be much less. I have calculated the quantity of dry extract from the specific gravity of the worts, and find a number of impossible results, that is, of quantities of extract that either are misrepresented, owing to the brewer not taking the weight of his worts with any degree of accuracy, or occasioned by very imperfect mashing of barley, and by very severe mashing of

bigg, I shall here state only the general results, in a short table, of the number of pounds of solid extract in sixty bushels of malt; of raw grain and malt distilled; and, lastly, of pure malt distilled, as far as there are vouchers in the Report.

	ENGLISH BARLEY.	SCOTCH BARLEY.	SCOTCH BIGG.
Malt, 60 bushels brewed, 1st quality	1373.64	1510.26	1348.40
Do. do. 2d quality	1311.00	1371.24	1256.76
Do. do. 3d quality	1313.58	1264.56	1232.70
Raw grain distilled, 1st quality, in suites	1462.89	1506.56	1486.93
Do. 2d quality	1285.50	1451.85	1383.50
Do. 3d quality	1401.14	1391.06	1305.11
Raw grain distilled in single brewings, 1st quality	1323.03	1291.06	1486.93
Do. 2d quality	1026.88	1277.40	1383.50
Do. 3d quality	1189.58	1224.52	1305.11
Distilled pure malt by the Report. 1st quality	1631.	1422.024	1436.669
By calculation from gravity of worts, 1st quality	1012.07	1291.922	1388.466
Distilled, 2d quality, per the Report	1460.434	1447.537	1385.385
Do. by calculation, from gravity of worts	1349.849	1303.063	1217.731
Distilled, 3d quality, per the Report	1359.155	1300.696	none left
Do. by calculation from gravity of worts	1138.53	1170.344	none left

It is evident that no dependence can be had on the quantity of extract in these experiments, as a few examples will show beyond all contradiction.

1. Malt, from English barley of the first quality, yields, in the brewery, from 60 bushels 1373.64 lib. But when distilled, the quantity of extract by the report is 1631; and if this extract be properly computed, it amounts only to 1012.07, or 60 per cent. less than in the Report. It is impossible to reconcile these discordant results, without setting aside the accounts of the specific gravity of the worts, as being taken very incorrectly, and unworthy of all credit.

2. English malt of the second quality, when brewed for ale, contained 1311 lib. of dry extract for every 60 bushels, at an average of all the brewings. But when the malt and raw grain of this denomination were distilled in suites, they produced only 1285.50 lib., though, if justice had been done, it should have yielded much more extract than in the brewery; and when still more diluted in single brewings for distillation, they produced only 1026.88 lib. In this last case, the grain must have been much weaker, and probably the mashing process worse conducted, or the brewer has paid no attention to taking the gravity of the worts; otherwise, this gravity has been much underrated. The malt of second quality of English grain was uniformly worse than that of the third quality.

3. In the brewings, 60 bushels of English malt of the third quality

quality yielded 1919.58 pounds of extract. In the distillation of raw grain in suites, they produced 1402.14. In the same kind of distillation, a single brewing produced 1189.58; in the distillation of pure malt, by calculating from the gravity, 1188.53; and in the Report, 1359.155. It is impossible to reconcile these contradictory accounts. But it is curious to observe, that the learned gentlemen differ in opinion, whether bigg be 8 or 14 per cent. inferior to barley of all kinds, when we find 60 per cent. of difference between the quantity of extract of the same kind of grain, viz. English barley of the first quality, and above 20 per cent. between this quantity in English grain of the third quality.

The same inaccuracy appears in the statement of the produce of Scotch barley and Scotch bigg; but I purposely chose to take the example from English barley; because there can be no suspicion of intentional error, while there is the clearest proof of the greatest want of care in taking the gravity of the worts.

It is impossible, therefore, in any view of the subject, to pay the least regard to the experiments in the distillation of raw grain, as affording *any data* for proving the comparative values of the different kinds of malt.

The distillation of pure malt, which should have been the principal object, employs only nine brewings, while it appears that ninety brewings were distilled in these experiments. And I do not see that any excuse can be given for consuming all the specimens of the weak bigg in the brewery, and raw grain distillations; or for employing so small a share of time on the distillation of pure malt, when it was the relative value of different malts, and not of different kinds of raw grain, that was to be ascertained. But several improper things were also done in the distillation of pure malt.

1. The malt of Scotch bigg, reserved for distillation, had been dried in so high a temperature, that the bushel, which weighed exactly 39 lib. as was formerly noticed, when taken off the kiln, weighed 41.83125 after being ground, or 2.8 lib. or 2 lib. 13¼ oz. more, while the malt of the best English barley increased only 1 lib. 3 oz. after it was kiln-dried. There is something here which would seem to imply a deliberate intention in some of the operators of making the malt of Scotch bigg too productive. I am unwilling to insinuate deliberate bad intentions, even in regard to the inferior operators; but certainly there has been very great carelessness, or too great inequality in the degree of kiln-drying.

2. What is called second Scotch bigg, contained only two parts out of five of what, in the malting tables, is marked as bigg of the first quality. It was composed of different propor-

tions of malt from Aberdeen, Perth, Dumfries, Angus, and Kirkcudbright. Only the two latter kinds of malt are classed in the list of second qualities of grain. If all the malt of second quality had been used, that circumstance should have been honestly related, as is done with regard to bigg malt of the third quality; and in calculating the produce of the mixture, the greater value of the proportion of better malt should have been allowed. I am informed by Dr Thomson, that there were only 19 bushels of first quality to 41 of second quality; but there should not have been one bushel.

3. The Scotch barley malt of the first quality got by far too little water for searching its grains. It contained only 1201 gallons of wort, while the malt of Scotch bigg had 1364, or above 13½ per cent. more water. This is a very unfair proportion; and it may be just noticed, that if the distiller had run the wash from this barley, sufficiently low in the distilling process, it would have also produced a few gallons more of low wines.

If we now compare the produce, in proof spirits, of the different kinds of pure malt distilled, we must see that, from the irregularities in steeping, malting, and kiln-drying the malt, we can only calculate from the quantity of raw grain malted, *i. e.* from the malt produced from a quarter of each kind of grain.

	Gallons.
A quarter of first English grain malted, from the medium of two experiments, yielded, of proof spirits	21.948
A quarter of first Scotch barley, from imperfect dilution and attenuation, yielded only - - - -	20.201
A quarter of first Scotch bigg, well diluted and attenuated, yielded - - - - - -	17.788

At this rate, first Scotch bigg malt is nearly 22 per cent. worse than first English, and 11 per cent. worse than first Scotch barley. But if the Scotch barley of 1804 had been equally attenuated and diluted, it would that year have produced as much spirits as the English barley produced of proof spirits.

If we compare the barley of second qualities with the bigg called second quality, we must observe, that the bigg malt of this name weighed 39.168 lib. per bushel, near three pounds per bushel more than the average of bigg malt used in the brewery; and we must deduct for the mixture of first quality.

	Gallons.
English barley malted of the second quality produced, of proof spirits, per quarter - - - -	20.785
Scotch barley, which was only about the weight of bigg - - - - - - -	19.059
Scotch bigg malted, deducting the value of the mixture, and leaving only second quality, would be -	17.066

At

At this rate, the English malt of the second quality is nearly 22 per cent. better than bigg malt of that quality, and Scotch barley malt is nearly 12 per cent. superior to second malt from bigg. It also deserves to be noticed, that what was called English barley of second quality, was really inferior to the Essex or third quality, and also that Scotch barley malt used in distillation along with raw grain, was weightier than the malt of the same denomination which was distilled by itself in these experiments.

No malt from bigg of the 3d quality was left for distillation. It was improperly expended in the brewery, or distilled along with raw grain. But, if we turn back to the 60th and 61st brewings, we find that malt of this description, weighing 33.5 lib. when kiln dried, and 34.651 when ground for distillation, was mixed with two parcels of raw grain, the average weight of which was 46.562 lib., and yielded only 15.622 gallons to the quarter, as the malt was from grain only 44.086 lib., or above 2½ lib. less than the raw grain with which it was mixed. I certainly do not underrate the bigg malt of 1804, of this weight and quality, when I state its produce at 14 gallons per quarter.

Supposing, then, English barley malted (of this quality)
to produce, as it did, - - - - 20.884
And Scotch barley, as it also did, of the same quality,
to produce - - - - - 18.612
Scotch bigg malt, from grain only 44.086 lib. per bushel,
to produce, as above, - - - - 14.

the average produce of Scotch bigg of the 3d quality, would be much more inferior to the malt from barley of the 3d quality, than that of the 1st or 2d qualities.

I must, however, observe, in justice to the barley, that what is called 3d quality of English grain, was, as already said, really better than what was called the 2d barley of that year; and that the Scotch barley malt, which was distilled as 3d quality, was equal to the best quality of ordinary years.

Taking into our minds a general view of the whole, the results would stand thus.

1st English - 21.915. 2d do. 20.785. 3d do. 20 881. Aver of 3 kinds 21.204.
1st Scotch Barley 20.261. 2d do. 19.059. 3d do. 18.612. Average is - 19.244.
1st Scotch Bigg 17.788. 2d do. 17 065. 3d do 14. Average is - 16.284.

At this rate, the English barley of 1804 was above 30 *per cent.*, and Scotch barley 13 *per cent.* better than Scotch bigg malted, notwithstanding the greater dilution and more perfect attenuation of the worts and wash from Scotch bigg.

But it is impossible for me to avoid rejecting the experiments on the distillation of pure malt made of Scotch barley, when I find that 2465.562 lib. of this malt of *the best* quality, by being

brewed into only 1201 gallons of worts, and attenuated from 51.2 to 4.5, yielded only 142.414 gallons of spirits; while 2308.125 lib., or 7 *per cent.* less of the 3*d quality* of English malt, yielded 148.931, or 4½ *per cent.* more spirits, in consequence of getting 1588½ gallons of water, and being attenuated from 34.8 to 0.7; also when I find that Essex malt of 38.433 lib. per bushel, produced nearly 3 gallons (or 2 *per cent.*) more spirits than Scotch barley malt of 42.0083 lib., or above 9 *per cent.* weightier per bushel, owing to the Scotch barley malt being attenuated only from 39.7 to 4.6. Imperfect fermentation, and unequal dilution, ought to be avoided in national experiments; and where they do occur, they must be rejected, as not leading to any fair conclusion.

May I now be permitted to make one general remark. All Scotch barley at present has an allowance of 15 *per cent.*; and I readily acknowledge that I think it ought to have a still further deduction from the malt duty that is paid on English barley. But with respect to bigg, notwithstanding all that is stated in this Report concerning the numerous experiments which were made in the brewery and raw grain distillations, the real merits of the question must turn upon the few experiments, which are to be considered as fair trials, in the distillation of pure malt. Here it is to be noticed, that a quarter of malted English barley, of the 3d quality, yielded 20.88 gallons of proof spirits, while a quarter of the best Scotch bigg, when malted, produced 17.788 gallons, or 18 *per cent.* less than the lightest English barley had done. Also, the average of the four English kinds distilled was 21.389 gallons per quarter, while that of the best Scotch bigg was only 17.788, or above 20 *per cent.* less than that average; and the 2d bigg, when malted, which was far superior to the best biggs of ordinary years, was 17.065, or 25¾ *per cent.* less than the average of English grain, even in 1804, a most unfavourable year for these experiments.

It is really matter of astonishment to me, that the calculations in the Report were not made from a comprehensive view of the whole distillations of pure malt, with a particular attention to the different parcels and kinds distilled, and with more accuracy in the calculations. If these things had been done, the gentlemen who conducted these experiments, instead of disputing whether malted barley was 8 or 14 *per cent.* superior to malted bigg, would have seen that, even in 1804, the former was more than 22 *per cent.* superior to the latter.

VI. It is proper, however, that I should take notice of Dr Thomson's conclusion from these Experiments, in which he in- [illegible] the difference between the two kinds of malt is 14 *per cent.*,

while Drs Hope and Coventry make it only 8 *per cent.* e I need only remark, that though Dr Thomson views his ject in different lights, and very properly rejects both the va- of raw grain, as a standard for determining the value of malt, also the produce of malt, without taking into account the ntity of grain it contains, he falls into an error when he takes medium between the value of raw grain malted, and that of e malt, as the rule for fixing the relative quality of the diff- nt kinds of malt. By doing this, he halts between two opi- ns, and is subject to the inconveniences of both, without en- ng the advantages of either. From the great inequality of ducting every part of the malting process; from the time that grain was thrown into the malt-steep to the time it was taken the kiln; where the period of time in steeping varied from :o 119 hours; where the time the malt lay on the floor varied n 8 to 20 days; where grain of the same weight decreased 8½ *cent. in* the 100, or increased 11 *per cent. upon* the 100; and :re every part of the malting process, and also where the tem- ature of the kiln in drying the malt, varied so much, it be- es impossible to adopt any fair and correct mode of compar- the different malts, except from calculating from the produce given quantity,—for example, a quarter of the malted grain he different qualities and denominations.

III. It only remains that I consider, very briefly, Dr Hope's ter to the Commissioners of Excise.

After what has been said, it is unnecessary to make many re- ks on this gentleman's difference of opinion from Dr Thom- , whether the malt from bigg in these experiments be 8 *per* ., or whether it be 14 *per cent.* inferior to malt from barley. all only observe, that it appears extraordinary, that a gentle- n, who strenuously defends the distillation of raw grain *method of ascertaining the comparative value of malt*, and who nds a number of calculations on the comparative results of raw grain distillations, will admit of no reference to the ntity of raw grain contained in a bushel of malt, *while he es- tes the values* of different kinds of malt. With regard to Coventry, who is a man of real science, and one of the most ral and candid men with whom I ever conversed, I am in- ed to think, that he was not originally a favourer of the dis- tion of raw grain, and that he is not at present disposed to port either the experiments in the brewery, or those in the illation of raw grain. And with respect to Dr Thomson, p is also a man of science, and a rising character in the lit- r world, I owe it as a piece of justice to him to state one re- rkable fact, viz. that the purchasers of bigg, employed by the

Board of Excise, had classed a quantity of Aberdeen bigg, which was considerably above 48 lib., among the Scotch biggs of the 2d quality; and that Dr Thomson, with that candour which becomes a man of science, altered this designation, and inserted the parcel among biggs of the 1st quality. On this account, I must certainly consider him, as I do his colleagues, as a man of science, candour, and integrity; and while I avoid discussing their little differences of opinion, I shall be sorry to give any of them the least cause of personal offence, notwithstanding that I feel myself bound to make my remarks on their experiments, at once with freedom and with becoming respect.

May I now request attention to a short summary of what has been said.

The barley of England in 1804 was worse in point of quality, and both the barley and bigg of Scotland were much better in this respect than they are in ordinary years; therefore the above experiments, though the samples had been fair, and every part of the various processes properly conducted, could not be decisive of the comparative values of the different kinds of malt on an average of seasons. This deserves to be particularly attended to, as I have reason to believe that the learned gentlemen who conducted these experiments will certify it in the most ample manner. But, independently of this important fact, there are many objections to the Experiments detailed in the Report, and to the conclusions drawn from their different results.

1. The specimens used in these trials, partly owing to the instructions given by the Commissioners of Excise, and partly owing to the interpretation put upon these instructions, or to the manner in which they were carried into effect, were improperly selected at first; and they were afterwards as improperly arranged into classes of 1st, 2d, and 3d qualities of grain.

2. The whole malting process was most irregularly conducted, —from unequal degrees of skimming off the light corns in the steep,—from unequal periods of steeping the grain,—from unequal increase in the process of malting,—unequal periods on the malt-floor, and unequal degrees both of malting and kiln drying.

3. In the brewing process, disproportioned degrees of dilution, or the pouring of a much greater quantity of water upon the malt from bigg, than on that from barley, occasioned the former to produce a comparatively greater quantity of extract than it would have yielded if both kinds of malt had been treated with their due proportion of water. In this process, also, the neglect of taking the specific gravity of the different worts, in more than half the whole number of brewings; and also, the neglect of taking the weight of the different worts by the imperfect saccharometer which

which was used, the number of errors in calculating the quantities of solid extract, and the discrepancies between quantities of that extract as stated in the Report, and their amount by correct computation, both from the specific gravity of the worts, and the saccharometer degree, as it is called, of Dring and Fage's instrument, destroy all faith in the conclusions which are drawn from the comparative quantities of solid extract which are contained in the greater number of the brewings, and consequently from the general results of the Brewing Tables.

4. The numerous and incorrect experiments, in distillation from mixtures of malt and raw grain, were not only unauthorized by the Lords of the Treasury, and foreign to the question at issue, but really were not fair trials of the comparative values of the different kinds of malt;—as the raw grain of barley used in these experiments, even after undergoing the operation of the fanners, was inferior to the barley which was steeped for malting, and the raw grain of bigg, distilled along with malt, was much superior to the bigg which had been malted; and as the malt used in the distillery was of very different value from that used in the brewery: Also, from the greater quantities of water which were poured upon the raw grain in malt of bigg, than on the raw grain in malt of barley; and, consequently, from the more complete attenuation of the wash of the latter, a comparatively greater quantity of spirits was extracted from the bigg than from the barley. Further, there are such gross errors in the statements of the specific gravities, both of the wort and the wash of the raw grain, as would, if the quantity of extract be computed from these, imply impossible results in the quantities, both of solid extract, and of proof spirits.

Finally.—The very few experiments made in the distillation of pure malt, which ought to have been the principal object of the Reporters, are liable to the same objections, of too little water being poured upon the malt, and of the imperfect attenuation of the wash of Scotch barley. Very gross errors are also committed in taking the specific gravity of the worts, which render the quantity of solid extract, found by correct computation from that gravity, so extremely different from that which is stated in the tables. Also, very unfair specimens of malt from bigg are used in the distillation of pure malt. The bigg malt of the 1st quality, distilled, was highly toasted in the kiln, and was 14½ *per cent.* weightier than the average weight of bigg malt used in the brewery; and above 15 *per cent.* weightier than the 1st bigg malt brewed. Likewise three quantities of the very best malt, and two quantities of malt somewhat inferior, were used under the name of bigg malt of the 2d quality; and not a single pound of

bigg

bigg malt of the 3d quality (or weakest bigg that was malted) was used in this species of distillation. Yet if this inferior malt had been used in its proper place, and an average fairly computed from the three qualities of bigg malt compared to those of malt from barley, it would have been found that the former, even in 1804, was above 30 *per cent.* inferior to English, and about 20 *per cent.* inferior to Scotch barley malt. It is matter of surprise, that in this situation there could have been any difference of opinion about bigg malt being inferior to that of barley, either 8 or 14 *per cent.* It is evident, that from the irregularities of the malting process, we must form our computations, neither from the value of a bushel of raw grain, nor of a bushel of malt, but from that of a bushel of raw grain malted; and even, upon the data contained in this Report, malted barley of crop 1804 will be found, by correct calculation, to be from 22 to 25 *per cent.*, superior to bigg, although the bigg of that season was far superior to the bigg of ordinary years.

GEO. SKENE KEITH.

FOR THE FARMER'S MAGAZINE.

Cursory Remarks on the present State of Agriculture and Rural Economy of the Highlands, &c. made in the latter end of May, and beginning of June 1807.

LEFT Edinburgh on the 28th of May, and took the Stirling road by Linlithgow. The fields in the immediate vicinity of Edinburgh are mostly occupied in raising greens, potherbs, and fruits, or in pasture. This seems to be the common and most profitable system of economy in the neighbourhood of every great city. An abundance of dung is necessary to produce the common culinary vegetables; and milk and butter are articles which always meet a ready market in a crowded population.

The general appearance of this part of Mid-Lothian, on leaving Edinburgh, is rather flat, with a gradual rise to the westward. On the other hand, a few detached eminences, of no great height, diversify the prospect. The whole is adorned with plantations, and interspersed with gentlemen's seats and villas in well chosen situations. The soil of the fields we passed, seemed mostly to consist of a strong black or clay loam, enclosed and subdivided with thriving thorn hedges into pretty large divisions, which appeared to be in a high state of cultivation. The wheat crops, which occupy a large proportion of this tract of the country, had a very promising look, some few instances excepted. Those fields,

is in sown grass were, I think, more irregular; in some es having the appearance of a weighty crop, in others indifferent. The practice of drilling beans, or peas and ns together, is generally adopted, though several fields were n in the broadcast way. Few of these bean fields were in so n and husbandman-like a state as might have been expected, sidering the fine weather during the preceding fortnight, a nt many of them being considerably advanced, without having a first hoeing. The operation of hoeing, when circumstan- admit, ought not to be delayed much longer than the young nts have got fairly above ground. Beans, being an early sown p, must lye a considerable time under the clod; and the na- weeds of a more hardy nature will soon overrun and choke m, if not kept under by the hoe.

The situation in which the fallows were lying, was very irre- ar; one field in particular, on the right-hand side of the road, considerable extent, was overgrown with grass and other ds resembling an indifferent corn crop. There were four ughs going upon it to very little purpose; for, instead of cross- the ridges, they were just reversing the furrows, consisting a stiff clay soil. After crossing the water of Almond, a field oats, in a fine soil and situation, appeared quite covered with ds, where something of a very different nature might have n expected. Some large fields of peas on the left looked n and thriving. Near Linlithgow, the fields are divided into re minute portions. A heavy shower came on a little before got to Linlithgow, and deprived us of the enjoyment of the utiful rural scenery this fertile district presents on every hand. e venerable remains of the palace and cathedral command the ntion of every traveller.

From Linlithgow to Falkirk, the face of the country is agree- y diversified with rich fields, uplands rising with an easy ll, and elegant mansions surrounded with woods both natu- and planted. The soil is a rich loam, under a masterly style cultivation. The enclosures are uniformly formed with thorn ges, which, in the low and sheltered situations within our w, were in a very thriving state, and in many places neatly nmed. The quality of the soil may be pretty accurately as- tained, from the state of the hedges which intersect it. When se are thick, flourishing, and of quick growth, it may fairly be erred that the soil is good. When they are thin, stunted, and rgrown with moss, they afford a certain indication of a poor, d, or barren soil. The wheat crops, particularly in the low- g grounds, were rich and luxuriant, perhaps too much so nsure a good return, should the season prove wet and show-

ery

cry. In the more bleak and elevated exposures, they did not show such a full flush of blade. In general, however, this crop looked well hereabout; and the like observation will apply to the other crops in this district.

The Carse, or low grounds along the side of the Forth, exhibit a beautiful scene of rich culture; but as this tract lies at a considerable distance from the road, any certain conclusion could not be drawn respecting the state of the crops. A thick drizzling rain having come on as we drew near Falkirk, prevented us from enjoying the surrounding scenery to advantage. It was the market day at Falkirk, and the street was thronged with a crowd of people.

From Falkirk to Stirling the road continues through the same rich tract of country. The fertile carse grounds on the links of the Forth, with the windings of the river, and the Ochil hills rising to a great height in the back ground, presented a fine variegated scene as we proceeded along. Immediately on leaving the town of Falkirk, the road crosses the canal, under an arch of sufficient span for the breadth of the road. As the canal goes up the vale of Carron, a number of locks are in view; but we had not the fortune to see any vessels passing at the time, which would have rendered the scene more interesting. The village of Carron, where the very extensive iron works are carried on, is on the right, which is almost enveloped in a cloud of smoke. St Ninians, a populous and thriving village, where some considerable tan-works are established, was viewed in our road to Stirling, after crossing the rivulet of Bannockburn, so famous in Scottish history.

The situation of Stirling much resembles that part of the Old Town of Edinburgh adjoining the castle, being built on the ridge of a rock, having a considerable declivity to the south-east. The castle occupies the summit of the rock, and has been the scene of many a hard contest between contending kingdoms and parties in former times. The prospect from the ramparts is one of the richest that can be imagined; but a heavy rain falling at the time, gave us little opportunity of enjoying it.

After leaving Stirling, and crossing the Forth, we took the road for Dumblane, up the water of Allan. A high wind, accompanied with heavy rain from the westward, contracted our view of the Vale of Forth above Stirling within very narrow limits. Along the banks of the Allan, up to Dumblane, the fields appeared to be under a regular course of cultivation; but the soil becomes lighter and less fertile as we advanced. Several fields, however, carried good crops of grain and sown grass; [illegible] and some pastures in very good order along

; the road-side, on both sides of the river. Dumblane is
own of considerable antiquity. The houses, in general, have
ecayed appearance, several of them being covered with thatch.
: ruins of the cathedral show it to have been at one time
ne building. A part of it is still used as a place of public
ship.

rom Dumblane the road ascends, in an oblique direction, a-
; the high grounds on the eastern bank of the Allan. We
Dumblane early on the morning, with a keen piercing wind
n the north in our faces. During the night, a shower of
w had whitened the higher summits of the Grampians;
the whole country had the appearance of being almost a
ith later than the tract we had traversed the preceding
. The soil is cold, poor, and barren, and the general ap-
rance of the country bleak and wild. Agriculture, how-
, is pushed a considerable way up the hills; and the line
demarcation, where sterility maintains her ground, and
and industry extend their influence, is strongly delineated.
: brown and rugged face of nature forms a striking con-
t to the green surface produced by the hand of cultiva-
. The hedges, the plantations, and natural-grown trees,
poor, starved, shrivelled plants. Some level meadow-ground
along the sides of the Allan, which might receive great be-
t from straightening and embanking the course of the stream.
n gaining the summit of the rising ground which divides
thallan from Strathearn, an extensive and varied prospect lay
re us. To the eastward there was a wide stretch of level
ntry, towards the lower parts of Perthshire; to the left,
directly before us, the rugged and rocky summits of the
mpians grizzled with snow. As we got down the hill to-
ds the Earn, into the valley or strath distinguished by that
e, we observed some pasture fields laid out in a tolerably
d state, near the village of Muthil. The soil here appears to
ight, gravelly, and covered with stones. The barley or *big*,
ch is much sown in these higher grounds, was just appearing
ve ground, and, in some places, not so far advanced.

The town of Crieff, noted for its cattle fairs, is on the opposite
k of the Earn; the approach to which is directly up a steep
k. Drummond Castle, a beautiful seat of the Perth family,
situated on an eminence, on the opposite side of the river,
ounded with numerous thriving plantations. At Crieff we
the public road northward, and went up the strath as far as
h Earn. This is a pleasant, beautiful valley, finely wooded
ornamented with gentlemen's seats. Ochtertyre, the charming
dence of Sir Patrick Murray, is delightfully situated in the
bosom

bosom of an oak-crown'd hill, with a fine lake below, like a mirror, reflecting on its surface the rich scenery which overlooks it above. The pleasure grounds, on an opposite hill, are laid out with much taste. At the church of Monivaird, the vale opens, where some fields of fine level ground seem to be pretty well improven. Here we saw a piece of moss, or marshy ground, improving after the Ayrshire method, intersected with deep ditches, and thrown into narrow beds. The pleasure grounds and fields round Lawers, the seat of General Robertson, appeared to be managed in a neat and becoming style of husbandry; as were likewise some fields in the neighbourhood of Duneira, a beautiful sequestered summer seat of Lord Melville's. At the church of Comrie, the vale extends to a considerable breadth, and again contracts before we reach the lake. The sides of the hills are beautifully ornamented with plantations, forest trees, and coppice woods; while their summits, black with heath, or grey with rocks, rise to a great height on either hand. Loch Earn is a fine sheet of water, extending about eight miles in length; and, when we reached the foot of it, the sun, just sinking beneath the horizon, illuminated the surface of the lake with his setting beams, in a most charming manner. The peasantry were busy in taking out their dung for their bigg, or in sowing and harrowing that crop.

From Strathearn we crossed over a wild range of hills, up Glenlednock, and across Glenalmond, till we regained the public road at Amulree, about eleven miles beyond Crieff. The hills on this tract of Perthshire are lofty, steep, rocky, and bare; affording a scanty pasturage to the sheep and black cattle which graze upon them. From the great elevation of these hills, in a central part of the island, they must be stormy in winter. The sheep are of the black-faced kind, but smaller and lighter than those in the upper parts of Tweedale and Clydesdale. Excepting their tups and hogs, they are generally unsmeared, a circumstance which must lessen the quantity of wool, and likewise materially injure the health and comfort of the animal. Their black cattle are likewise of a smaller size than those to the southward, and generally horned. We saw large quantities of snow lying on the sides of these hills.

From Amulree to the banks of Tay, the country presents nothing but a bleak waste, covered with heath, and almost wholly destitute of cultivation. On this tract we saw vast numbers of black cattle and horses, of the small Highland breed, with sheep of a small size. The banks of Tay, where we crossed by Aberfeldie, are beautifully ornamented with birch woods. The vale of Tay here presents some rich fields, the crops upon which look-

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ed well. The rising grounds, on both sides, are cultivated a good way up the hill; but the soil seems to be light after leaving the valley, and the crops late, as the fields had generally the appearance of being lately sown. The hills to the westward, on the sides of Loch Tay, rise to a very great height; having large quantities of snow upon their summits, which are pointed and rocky. The Tay here is a pretty large river, and forms a general drain for the wide and mountainous district of Breadalbane.

Whether these hills could be more profitably employed in rearing the Cheviot and other fine-wooled breeds of sheep, still remains to be determined. Should they thrive equally well as the black-faced kinds, in this wide and extensive district, their introduction would be a great national advantage. From the very superior value of their wool, the farmer would be enabled to pay a much higher rent; while our great staple manufacture would be much promoted. Some of the mountains in Northumberland, Roxburgh, Selkirk and Dumfries shires, where this kind of stock is brought to the greatest perfection, are not much less elevated than those; though it is probable that they may possess a better soil, and produce better pasturage. In Inverness-shire, near Fort Augustus, and even in Ross and Caithness-shires, the Cheviot sheep have been introduced, with every prospect of success. Were the ground not overstocked, and a suitable portion of the lower and better sheltered part of the farm reserved for winter pasture, there can be little doubt but that they might be introduced with safety, even among the highest hills in Perthshire, provided they were managed with the same economy, and treated with that care and attention which is paid to them in the Border counties. One thing, at least, is certain, that this range of hills is much better adapted to the rearing of sheep than black cattle; which last practice, though formerly most prevalent, is now much on the decline.

From the inn at Taymouth the road leads a little way up the north side of the Tay, ascends along the banks of a deep, rapid stream, and winds around the base of the mountain Shiechallion, till it falls into the valley watered by the Tummel, a rough, deep, and turbulent stream. A few spots of cultivation, intermixed with pasture grass, appear in this valley. The surface, in many places, is literally covered with large round stones, of a species of black or grey granite. The general appearance of the country is dreary and desolate. From Tummel bridge, the country displays the same rugged and desolate appearance; the road winding, in a circuitous manner, through glens, and over rising grounds, among hills and lakes, till it reaches Dalmacardoch and

Dalwhinnie,

Dalwhinnie, the last of which is in the district of Badenoch, in Inverness-shire. The old military road, though not always conducted with a view to the ease of the traveller, is, in general, better executed than it seems to have been planned. The inns at Taymouth, Dalnacardoch, and Dalwhinnie, afford good accommodation; that at Tummel bridge, however, is an exception.

From Dalwhinnie to Pitmain, the country opens a little, with more of level ground betwixt the hills. Some fine level fields on the banks of the Spey, near the inn at Pitmain, seem to produce tolerably good crops of oats and bear. The upper grounds are hard and bare, and covered with stones. The crofting system is here very generally practised. The population in this district must be very considerable, from the great number of cottages and small fields upon the road side. Their small spots of ground under cultivation scarcely deserve the name of corn fields. They were then (1st of June) busy in carrying out their dung for their bear land, or potatoes; and their husbandry utensils, and mode of labour, strictly coincided with the appearance of their fields and cottages. They were, however, giving their fields a most plentiful dressing of dung; and their corn crops, in many places, looked very promising. Below Pitmain are some fields, which would be greatly improved by draining and embanking; which has been partly attempted, but not completely executed. On the higher grounds the soil consists of a light, thin, gravelly stratum of earth, covered with heath and birches of a diminutive growth. Before we got to Aviemore, which is on the border of Murrayshire, there are a great number of trees of that species called the weeping birch, of a peculiarly beautiful appearance, which here rise to a great height, and are straighter than the common birch. On the opposite banks of the Spey are immense forests of natural firs, which seem to grow to a very considerable size.

The road here leaves the Spey, and, after crossing the water of Dulnain, traverses a tract of flat coarse moor ground, till, winding up a steep glen, it again descends into the valley watered by the river Findhorn, the banks of which present a few spots of cultivation. The soil seems to be light and gravelly. The hills are not so steep and elevated as in Badenoch and Braidalbane. From the Inn at Freeburn, a little north from the Findhorn, there is the same continued tract of black heathy moors, on which sheep and black cattle of a diminutive size were pasturing. Both sheep and cattle were very lean, and had the appearance of having suffered much hunger during the winter or spring. We entered the valley divided by the Nairn, the same scene of Highland cultivation was observable as we had seen in Strathspey;

—a numerous population, wretched huts, a light soil, late crops, and the most awkward utensils of husbandry. Having gained the summit of the rising ground beyond the water of Nairn, a more inviting prospect lay before us. Here the Murray Frith, the peninsula of Cromarty, the cultivated fields along the coast, and round the town of Inverness, and the hills of Ross-shire rising to a great distance, formed a striking landscape. As we advanced, Fort-George could distinctly be perceived on a point of land running into the frith, with the moor of Culloden, and a long stretch down the shore on our right; while the elevated summits of the hills in Lochaber were at a great distance on the left; with the spires of Inverness, and the shipping in the harbour, below us. The fields on the high grounds to the eastward of Inverness, are a dry gravelly soil; but those on the sides of the Ness, particularly on the north-west side, are a rich loam, and managed in a becoming style of husbandry. On the low grounds the several crops looked well, some fields carrying rich wheat; others, sown grass, equal to any in the Carse of Falkirk.

Inverness is a handsome, well-built town, situated on both sides of the Ness, and connected by a substantial bridge of seven arches. It has a considerable share of trade; and manufactures of different kinds have long been established there. The salmon fishing in the Ness is very productive. The inhabitants are gay and elegant in their appearance, and said to speak the English language with greater purity than in any other part of Scotland,—which may be pretty correct, when applied to the higher ranks. The canal, at present going forward to connect the Murray Frith with the Western Sea at Fort William, is a vast undertaking, and, when finished, will prove an incalculable benefit to the coasting trade of the island. The bason at Clachnacharry, where the canal enters the frith, is nearly finished; and the digging of the canal is carried a good way up the vale of the Ness. Several of the locks are considerably advanced; and a mole or pier, to the westward of the entrance to the bason, is at present forming. The expense of these works will bring much money into the country, while it gives employment to a great number of hands, and inures them to habits of labour and industry.

From Inverness we proceeded up the side of the frith, at the head of which we crossed the river Beauly, at the village of that name. Around the sides of the frith, and at the head of the bay, a fine tract of arable ground is extended, well cultivated, and bearing good crops, which is let at high rents. From Beauly to Dingwall the road crosses a bleak heathy moor, of a thin light

soil, a considerable part of which is laid out in plantations, and a few spots are cultivated in a very imperfect manner by a great number of small farmers. On the banks of the Conan, the soil is better, consisting of a clayey loam. A great deal of wood, both natural and planted, grows on the banks of this river. Dingwall is a royal burgh, situated in a vale at the head of the bay of Cromarty, and, consisting of one principal street, is reckoned the second town in Ross-shire.

From Dingwall we turned by Strathpeffer to Conlin, an inn on the road to Lochbroom. The valley of Strathpeffer contains some rich ground, but is narrow and confined by high hills, and not improved to that perfection its natural advantages seem to point out. Near Conlin, the fields and pleasure grounds of Coul, the property of Sir George MacKenzie, Baronet, appeared to be managed in a superior style of husbandry. Several fields, both in crop and pasture, were in excellent order. Here we saw a flock of Cheviot sheep, which seemed to thrive well.

From Conlin to Lochbroom the country is rugged, mountainous, and rocky, covered with heath, where a great number of black cattle, horses, sheep and goats, have an indifferent pasture. Many natural woods grow on the banks of the rivers, which descend to the eastward. Cultivation has made some feeble efforts to display her industry; but the soil and climate are inimical to her operations. Some green spots here and there discover her progress; but these are rare, amidst such a vast tract of waste. On the sides of Lochbroom, the hills are steep and rocky down to the water's edge. A small spot of level ground on the sides of the river which runs into the bay is under cultivation, and seemed to yield tolerably good crops, but, under the system of cultivation at present practised, cannot be made to give any great return. Along the sides of the hills, small detached pieces are laboured with the *cascroom*, an instrument familiar to those only who are in the most backward state of improvement. Lochbroom is esteemed one of the best herring stations on the coast of Scotland. Ullapool is a newly established and thriving fishing village, about six miles down the bay on the east side, which may *in time* become a town of some importance.

From Lochbroom, we returned by the same route to Inverness. The newly established tryst or fair at Beauly, for wool and sheep, was held on the day we past through that village; and the competition for the premium granted for the best tups, was to be determined at that time. There were only three lots, of six tups each, shown, which, I suppose, would each gain a premium. They were of the black-faced kind, and seemed to be pretty good specimens of that species of stock. A respectable meeting of proprietors,

proprietors and farmers assembled on this occasion; and the prices of wool were nearly equal to those of last season.

From Inverness, we took the road to Fort William, which lies along the south-eastern bank of the river Ness. A great number of acres are laid out in plantations along the banks and rising grounds on the sides of the river. The steep banks along the Ness, are here covered with broom and furze, which, at this season of the year, decorated with a full profusion of blossoms, appeared 'unprofitably gay,' and had a most brilliant show. We observed some part of this fine vale completely in a state of nature, though certainly capable of much improvement, from its situation on the banks of the Ness.

Loch Ness is a fine sheet of water, extending twenty-two miles in length in a direct line from north-east to south-west. The old military road lies along its eastern banks. For a considerable way up the side of the loch, the road is quite level, keeping parallel to the water, through a fine coppice wood, intermixed with larger trees, consisting of birch, ash, alder, &c. which extend a considerable way up the hills on each side of the lake, while the rocky, steep and elevated summits of the mountains rise to a great height above. In this tract we saw a number of sheep which were of a better shape and size, and in superior condition to most of those to be seen further north.

After passing the inn at Boleskine, the road leaves the side of Loch Ness, and winds up the rugged banks of the Foyers, which are beautifully shaded with the weeping birch. The great fall in this river claims the attention and admiration of every traveller. We did not see it to the very best advantage, though the river was a good deal swelled by the rains which had fallen the preceding day. It is a grand object; presenting a considerable stream of water precipitated over a rock upwards of two hundred feet of perpendicular height. During its fall a part of it is converted into vapour, or spray, which is seen rising like smoke at a distance, when approaching it. After crossing the Foyers, along the banks of which a good deal of level ground is stretched above the falls, (some of which is under cultivation, but the crops appeared late and unpromising), the road for some miles goes along the top of a pretty high ridge, and then descends by the side of a loch, and down a steep bank, across a rapid stream finely fringed with underwood, when Loch Ness again appears in view. At the head of the loch, on a spot of rising ground, surrounded with fine green fields, is placed Fort Augustus, a neat, regular fortification, with commodious barracks. It is a handsome spot, and forms a striking contrast to the rude scenery in the neighbourhood.

To the south of Fort Augustus, on Glengary's estate, are some farms stocked with Cheviot sheep, which have succeeded very well. Glenurquhart, Glenmorrison, and Glengary, are vallies which run a considerable way into the country on the northern side of this great chain of lochs. Loch Oich, at the foot of Glengary, is about five miles distant from Fort Augustus. This loch is about three miles in length; and from Loch Oich and Loch Lochy, the distance is one mile. This isthmus is the highest point of land betwixt Inverness and Fort William in the course of the Caledonian Canal; and this part of the work, from the irregularity of the surface, will require a deep cut to connect the two lakes. Loch Lochy, like Loch Ness, extends in a direct line about ten or twelve miles towards Fort William, and is surrounded with steep, rocky hills, intersected with gullies and rapid streams. The hills on the eastern side appear to afford a better pasturage than those on the west. Near the foot of Loch Lochy, the vale opens; and the road here leaves the side of the lake and stretches to the eastward till it crosses the Spean, a deep, rapid river, which drains a large tract of country in Lochaber. At this turn of the road, Bennevis, the most elevated mountain in Britain, appears in view, presenting a bold and rugged front, spangled with large tracts of snow, which reach a long way down the sides of the hill. The upper part of this mountain seems to be a huge pile of rocks; but the lower grounds and round the base, appear to afford pretty good pasturage. Most of the ground in the vicinity of Fort William is covered with heath, except some low carse ground at the head of the bay, and in the neighbourhood of Corpach, where the Canal enters the sea, about a mile to the northward of the mouth of the river Lochy. A considerable progress has been made in the work at this end of the Canal. The ruins of Inverlochy Castle are upon the very edge of the river, and Fort William at a little distance on the south bank of the Nevis. Gordonsburgh, a neat thriving village, is immediately adjoining on the shore. This arm of the sea is a celebrated station for the herring fishery. The coasts here, like those of Lochbroom, are bold and steep, except a tract of low ground at the estuary or entrance of the Lochy into the sea. A few fields are under cultivation, but of no considerable extent.

From Fort William we took the old road to Kingshouse, across the hills, a most difficult and disagreeable road to travel. This road, carried in a zig-zag direction over the summit of a high and rocky hill, is out of repair, being little frequented, and in some places scarce passable. The hills in the neighbourhood of Fort William afford pretty good pasturage; but, before we reach the head of Lochleven, an arm of the sea, which separates Inverness from

from Argyleshire, they are steep and barren, being almost entirely covered with stones, or small patches of heath where there is any soil for it to grow upon, the most of the way to Kingshouse; affording the most dreary and desolate prospect imaginable.

From Kingshouse to Tyndrum, the road crosses over the same tract of waste and mountainous country. It is thinly inhabited, being generally occupied in pasturing sheep and black cattle. The road here is in good order, owing, I suppose, to the small repair that is upon it, and the substantial manner in which it has been formed; but the accommodations for travellers are very indifferent. The distance between Fort William and Tyndrum by the road we took, is forty miles; and the central station at Kingshouse affords very poor entertainment for passengers.

Near the Inn at Tyndrum, there are a number of cottages of a mean appearance, with small spots of arable adjoining, belonging, I suppose, to the workmen employed in the lead mines there. After crossing a part of Argyleshire, the road enters Perthshire, at the head of the vale of Strathfillan. A few miles below Tyndrum, the road strikes to the westward till it reach the valley at the head of Lochlomond. The face, or appearance of the hills, improves a great deal as we enter the vale of Lochlomond, affording a much finer grazing than those to the northward. On some of these pastures the Cheviot sheep have been introduced lately.

We entered the valley at the head of Lochlomond, by a steep path, through a fine thriving grove of young oaks and birches. The ride down the side of Lochlomond was highly pleasing. A slight shower had fallen before we entered the vale; and the woods, in full verdure, shed a rich perfume. The air was calm, the surface of the lake was as smooth as a mirror; while the haze in the atmosphere contributed to augment the distinctness with which the water reflected the rocks and woods wherewith its banks are so finely decorated. The trees, mostly oak, ash, beech, alder, mountain ash, firs, hollys, and hawthorns, were in full blossom. Further up, the hills are rocky and precipitous, with huge fragments scattered along the road side at the bottom, which seem at some former period to have been separated from the rocks above. The road winds in an irregular line among the rocks, sometimes rising with a steep ascent to a considerable height above the level of the lake, and again descending to the water's edge. A number of cottages are interspersed among the openings in the woods, with their small spots of cultivation adjoining.

After stopping to feed our horses at Tarbet, we again proceed-

ed along the banks of the lake. A great number of persons were employed in stripping oak wood of its bark, on both sides of the loch, for which article the proprietors draw a very considerable sum annually. A part of the road here has been newly formed upon an excellent plan, being kept on a level with the lake, and following every winding of the rock. At Luss the lake expands to a great breadth, where it is ornamented with a number of islands finely wooded, and displaying a rich and picturesque scenery. To the eastward, Benlomond, rising with majestic dignity, overlooks the beautiful scenery of his subject lake, and a rich tract of country to the southward.

From the bottom of Lochlomond along the water of Leven, the face of the country assumes a quite different aspect. Rich cultivated fields enclosed with hedges—gentlemen's seats surrounded with thriving plantations—and populous manufacturing villages, appearing almost like one continued city—every thing wearing the face of successful industry. The fine monument erected to the memory of the ingenious Dr Smollett, on the road side, is a beautiful object, and attracts the attention and curiosity of travellers.

The fields around the bottom of Lochlomond, and on the sides of the Leven, consist of a rich clay or loamy soil, affording good crops and pasturage. We saw here some excellent fields of wheat, and sown grass. A great proportion is laid out in plantations and pleasure grounds. The black cattle are of a larger breed than those of the neighbouring counties of Perth and Argyle.

Dumbarton occupies a low situation. It consists of one principal street, level, and well paved. The houses are unequal, many of them having the appearance of great antiquity. There is a considerable glass-work carried on at the upper end of the town; and it has some trade by sea, vessels coming close up to the back of the town. The castle is situated on, or rather includes within its walls, two points of an insulated rock, of considerable elevation, on the west side of the river Leven. It forms a very striking and picturesque object; and has been kept as a place of strength from a very remote period of antiquity.

The road from Dumbarton to Glasgow presents a succession of scenery highly interesting, and of a character directly opposite to that which we had surveyed the two preceding days. On leaving Dumbarton, for the first two or three miles, the crops had the appearance of being much hurt by the drought, the soil here consisting of clay, inclining to gravel. Some hills of no great height were on our left hand; on our right, the frith of Clyde, which we could trace as far down as Port-Glasgow and Greenock, with vessels going up or down the river. On each side,

side, fine pasture ground and cultivated fields. As we got nearer Glasgow, the country improved, displaying a wide and extensive tract of rich and highly cultivated fields. These fields are almost uniformly enclosed with thorn hedges. A great number of villas occupy the rising grounds, and adorn the prospect, as we approach the city. Most of them are elegant, and some of them magnificent, with gardens and pleasure grounds laid out with much taste. They are mostly the property of the wealthy and flourishing merchants and manufacturers of Glasgow.

The crops, in general, in the vicinity of Glasgow, had a very thriving look, though both the soil and cultivation were inferior to what is to be seen on the banks of the Forth. The fields of sown grass appeared to carry weighty crops; but, in general, there was less clover than customary on rich soils. Whether this was owing to the severe spring frosts, or that a larger proportion of rye-grass is preferred for horses food, is doubtful; but such a mode of management may be considered as scourging to the soil, rye-grass bearing a nearer affinity to a white crop, than clover or most of the other sown grasses. The turnip ground was working in many places; but, though several fields were sown, none of the young plants had got above ground. Potatoes had a promising look, the young plants being pretty far advanced in several places. Some fields of oats, particularly one of the potatoe variety, displayed the most promising crop of that grain to be seen on the road. Wheat was, in general, good; but scarcely equal to what we had seen in the neighbourhood of Edinburgh, and in Linlithgowshire. The canal, over which the road passes by a drawbridge, is an interesting object in relation to the improvement of the commerce and agriculture of the country. The traveller is struck with an agreeable surprise on seeing vessels moving through, or rather over, corn fields and hedges; for the tract of the canal is higher in many places, by means of the embankments, than the surrounding fields which are intersected by its course.

Glasgow is a populous and flourishing city. The streets are regular and the houses well built. The public and modern buildings are magnificent, and executed in an elegant style of architecture. It is certainly by far the most thriving town in Scotland, in regard to the commerce and manufactures carried on here in connexion with Port-Glasgow, Greenock, Paisley, and the many populous villages which form the suburbs of the city. In the principal streets, every house is a shop or inn, or devoted to some public occupation.

From Glasgow to Hamilton, the country has much the same appearance of fertility and high cultivation, as the approach to

the town from the westward. It was the market-day when we left Glasgow, and the road was crowded with people going into the town. Carts and baskets were loaded with articles of sale. Every thing had the appearance of wealth and plenty. The fields, both under crop and pasture, had a thriving look; though the cultivation, in general, as we got further up the Clyde, is not in the most finished style of neatness. The old mode of broad, crooked and high ridges, is still pursued in some parts; the bean crops, in many places, sown in the broad-cast way; and those in drills, cleaning in different places with the hand-hoe. The barley crop seemed in general to be late. The soil, as we got further up Clyde, and on the higher grounds, consists of a cold stiff clay, and must be difficult to manage, either in very droughty or very wet seasons. The horses in Lanarkshire are generally more strong and weighty than those on the eastern coast of Scotland; and they draw vast loads. The carts, like the horses, are stout and clumsy.

Hamilton is a town of considerable antiquity, irregularly built, and situated near the confluence of the Avon and the Clyde. The Duke of Hamilton's palace and pleasure grounds, are in the immediate vicinity of the town. From Hamilton to Lanark, the appearance of the country is more bleak and barren; the soil becoming poorer, and less fertile, as we advance to the southward. Along the banks of the Clyde, however, there are some fine rich low lying grounds. These are finely ornamented with plantations, and natural grown woods, interspersed with gentlemen's seats, and handsome farm-houses. In this district, a good deal of attention seems to be paid to the raising of fruit, considerable spaces of ground being laid out in orchards; almost every gentleman's place, farm-house, and even cottage, having one of a greater or less extent.

Lanark is a royal burgh of great antiquity, and the county-town of Lanarkshire. It is situated on a rising ground considerably elevated above the course of the Clyde, the channel of which is here broken with deep falls, the banks being steep, rocky and confined. It was a *fair* day when we came through Lanark, and a great crowd of people were on the streets. From Lanark to Elvanfoot, after crossing the Clyde, we struck across the country nearly by the skirts of Tintoc, which is one of the highest hills in Lanarkshire. This part of the county is mostly devoted to rearing sheep, though a good part of it seems formerly to have been under cultivation, though now in pasture. Before we got upon the public road again up the Clyde, which has a very circuitous course here, it was getting dark; and a thick drizzling rain coming on, we reached the inn at Elvanfoot at a late hour.

The

e black-faced or short breed of sheep, is the common stock
ɔt on these hills, though the Cheviot is beginning to be intro-
ced on some farms, the very superior value of the wool of the
ter kind giving them a decided preference over the other as a
ıre profitable stock.

From Elvanfoot, the road is remarkably good, being wide,
ooth and level, as far as the nature of the country will permit.
ı leaving the Clyde, the road falls into the Evan, a branch of
: Annan. Along the banks of the Evan, it descends till within
nile or two of the village of Moffat, through a fine pastoral
ıntry. Moffat is a neat clean village, with a wide open street.
veral of the houses are built with a kind of blue stone, or coarse
ırble, which has a fine appearance at a small distance. The
ebrated Spa well is distant about a mile from the town. It
s formerly much frequented by invalids during the summer
ınths; but is not so much resorted to at present. The hills
ɔve Moffat are steep and bare, but afford a healthy pasture for
ep. The valley below spreads to a considerable breadth, and
ms to be under a pretty good course of cultivation. Lime is
ıch used as a manure, and its good effects are visible in con-
ting the natural brown heath into rich and verdant grass pas-
e. The soil is gravel, or a light sandy loam on the low val-
s, which produce good crops of oats, barley, turnips and po-
oes. After getting a little down the vale of Annan, we croſſed
r ſome riſing grounds, by a ſteep winding road leading to the
ter of Dryfe, which waſhes a fine green valley, and unites with
: Annan a little above Lockerby, a market town on the Glaſgow
ıd to Carliſle. The banks of the Dryfe are well cultivated and
proven; and the crops, as far as we could obſerve, had a thriving
ɔearance. A good deal of wood, both natural and planted,
ɔrns the banks of that river. From thence we croſſed over a
ct of hill country, for about eight miles, till we got into the
ley watered by the Eſk, a few miles above Langholm, a thriv-
: manufacturing village in the eaſtern diſtrict of Dumfriesſhire,
l the firſt ſtage in Scotland on the road betwixt Carliſle and
inburgh. This diſtrict is moſtly paſtoral, conſiſting of fine
ɛn hills of a moderate height, and now wholly ſtocked with
: long or Cheviot breed of ſheep, and a few black cattle of the
lloway breed. The ſoil on the banks of the Eſk conſiſts of a
r gravelly earth, or a light ſandy loam, in the vallies; producing
ɪtty good crops of oats, barley, peas, turnips, and potatoes.
ɛre are a number of fine natural woods on its banks, and a few
ntations. The cultivated fields are moſtly encloſed and ſub-
ided with ſtone walls. Here we terminated our journey, after

traverſing

traverſing a great part of the central, northern, and weſtern counties of Scotland.

A few general remarks ſhall now be hazarded.

From the obſervations we had an opportunity of making, and the information received from others, in the courſe of the above journey, it appeared evident, that the population of the Highlands, which in many places is very great, was by no means proportioned to the means of ſubſiſtence they at preſent poſſeſs. A numerous population, without commerce or manufactures, and labouring under a defective ſyſtem of agriculture, and an unſuitable mode of paſtoral economy, in managing a tract of country peculiarly deſtined for that purpoſe, was a conſideration that ſtruck us moſt forcibly on viſiting that part of the country. The mountainous diſtricts of Perth, Inverneſs, Roſs, Sutherland and Argyleſhires, are better adapted to paſturage than any other purpoſe. The rearing and grazing of ſheep is more profitable, and conſequently ought to be adopted in preference to that of black cattle, the former being ſupported at leſs expenſe, and depending leſs on the labour and induſtry of man for their food in winter. They are naturally themſelves of more value in proportion to the food they conſume. Their wool, as an article of manufacture and commerce, has been a principal medium in promoting the proſperity of the nation at large. The introduction of ſheep-farming into theſe diſtricts muſt of neceſſity reduce the population very conſiderably; for, under ſuch a ſyſtem, a comparatively ſmall number of inhabitants, to what is at preſent on ſome parts of them, are ſufficient for the purpoſes of paſtoral economy. We do not, however, from what is ſtated above, pretend to infer, as ſome have done, that the general population of the north is too great, or that it ought to be reduced by any arbitrary or violent meaſures. On the contrary, no more is meant, than that the population of the north might be directed to more proper modes of employment and induſtry, for the general intereſts of themſelves, the country, and the ſtate. For when an exceſs of population is complained of as a nuiſance, it may be believed that there muſt be ſomething radically defective in the civil or political economy of the State. The population of any country muſt be accounted its greateſt ſtrength, as well as its trueſt riches, where its exertions are directed to promote the real intereſts and proſperity of the whole,—where the inhabitants mutually cooperate in advancing the public welfare.

The depopulation of the Highlands has been a theme of declamation for a number of years paſt; and it certainly has taken place to a certain degree, though not to ſuch an extent as to create any ſerious alarm in the breaſts of thoſe who wiſh to ſee their

their country prosperous and thriving. There may be fewer inhabitants in certain districts of the Highlands, than there were half a century ago; but the general population of Scotland is not decreased. In the same proportion that the population of some parts of the country has declined, that of the manufacturing towns and villages has increased, or perhaps in a higher ratio.

The introduction of sheep-farming into the Highlands, and the encouragement given to graziers from the South country, has been considered as the principal cause of this depopulation; and the policy of the present proprietors, in favouring this system, in preference to the old mode of economy practised by their forefathers, has been arraigned, by superficial reasoners, as a subject of the most alarming and serious concern to the State. It is evident, however, that the true interest of the landlords, as well as of the inhabitants, is connected with the success of sheep-farming, provided those parts of the country which are capable of improvement by cultivation are not thrown into sheep walks. If this is properly kept in view, there is ample room for employing the surplus population which the grazing system might spare from certain districts in the North. There are many tracts of low lying grounds, and along the coasts, which are capable of much improvement. The proportion of that under cultivation is but small, in comparison to what is at present in a state of nature; or, at best, under a very imperfect mode of culture. As the landlords are supposed to derive considerable profits from the introduction of sheep-grazing upon their estates, they might be enabled, without any detriment to themselves or their posterity, to let such grounds to the present inhabitants on improving leases and liberal terms. A greater number of black cattle, by this means, might be reared on less bounds than at present. Perhaps, in this case, it would be the true interest of both the landlords and the country at large, that a number of South country farmers should be invited to settle on their estates. It would show them what improvements might be effected by introducing a proper course of husbandry, and a suitable rotation of crops; and, at the same time, instruct and stimulate the natives to pursue the most eligible modes of industry and economy necessary for promoting their own interests and those of their country. Where the native inhabitants, however, are willing to perform what their present skill and capital enable them to do, they ought not to be wantonly turned out to gratify the avarice or caprice of a landlord, or the interests of a stranger. There can be no reason, either physical or moral, why a native Highlander may not improve his country as well as any other, provided he enjoys the requisite

requisite knowledge and means of improvement possessed by the other.

A more general introduction of the turnip husbandry, and a proper rotation of green and white crops, into the agriculture of of the Highlands, when the soil is adapted to such culture, might be productive of very great advantages to that part of the island. The turnip is naturally a hardy plant, at least a great variety of them come to perfection in very cold and exposed situations; and thrives on almost any dry soil, where a sufficiency of dung can be applied to the raising of them. When kept clean, and properly managed, turnips enrich the soil in a remarkable degree, particularly where they are eaten off with sheep. Where the ground is rich, and in good heart, it admits of being earlier sown; which is a great matter in Highland districts, as it produces grain of a better quality, and gives the chance of being earlier reaped.

A more general application of lime or marl as manures, would be productive likewise of the same advantages to the north of Scotland; and where they cannot be had on the spot, from the advantage of water carriage might be brought to most places in the North at no great expense. Scotland already possesses many advantages in this respect, and must, in the course of a few years, have the advantage over most other countries, when we consider the numerous public works, such as canals, roads, bridges, and harbours, now going forward or in contemplation. The advantages of water communication may be yet much further extended, by means of the many fine lakes and rivers with which this part of the island is particularly enriched. It is not easy to fix the bounds, or say to what extent the improvements in any country may be carried, when the spirit of enterprize and industry is fairly roused among its inhabitants; and there is no inducement more forcible than self-interest, where it is clearly discovered.

A better breed of horses might likewise be introduced into the Highlands, as, without such a previous measure, little solid improvement can be expected in the agricultural system. A vast number of the old breed of small poneys are still reared and bred in the northern counties; though there is no exaggeration in affirming, that a pair of good stout horses, properly fed, harnessed and trained, will perform more work, and to much better purpose, than a score of the present kind can be supposed to do. The implements of husbandry may be characterised in a similar manner; indeed it excited our surprise, that the husbandry of these districts, imperfect as it is, was so well executed under such disadvantages.

P.

BRANCH II.

AGRICULTURAL INTELLIGENCE

AT no period, ſince the commencement of this Work, has a more gloomy proſpect been in the way of the generality of Scottiſh farmers than at the preſent moment. Encumbered with heavy rents, taxed more ſeverely than other claſſes of the community, and obliged to pay a higher price for labour than hitherto known, in few inſtances can their ſituation be reckoned deſireable; but, when other circumſtances are taken into account, namely a bad harveſt, dull corn markets, and the depreſſed price of live ſtock, ſlender conſideration is called for to aſcertain that the condition of cultivators is melancholy and alarming beyond the experience of former times. To ſpeculate upon the iſſue, would ſerve no uſeful purpoſe. Probably it might produce a contrary effect, by paralyzing the efforts of thoſe ſo unhappily circumſtanced; therefore our details ſhall be limited to facts which cannot be queſtioned.

The opinion expreſſed in laſt Number, reſpecting the ſeveral corn crops, has been verified by the reſult; with the lamentable addition, that, in many of the northern and weſtern diſtricts, a large proportion of the crop, at the date of laſt accounts, ſtill remained in the field, expoſed to ruin and deſtruction from the elements, and much of it already in a ſtate approaching to rottenneſs, unleſs a favourable change of weather ſoon intervene and prevent ſuch a melancholy cataſtrophe. From all the accounts communicated to us, it appears that the ſeveral crops (wheat excepted) are every where of little bulk; indeed more ſo than in any year ſince the memorable 1800, when dearth raged through the land. Wheat, in every point of view, proves to be the beſt crop; and in ſeveral of the Engliſh counties it is eſtimated as exceeding the ordinary average, and of ſuperior quality to the grain of the preceding year. Barley is probably below par; but oats, beans and peas, are greatly defective; the latter articles particularly ſo. The failure of beans and peas ſhowed itſelf about the end of July, when a diſeaſe, appropriately called the *Black Jaundice*, ſeized them, and completely ſtopped further improvement. In no ſeaſon, within our remembrance, have beans and peas more generally failed than in this one. It was of no importance whether they ſtood upon a ſoil which was ſtrong or light, deep or ſhallow, rich or poor. On almoſt all they met with the like fate; and the produce is a ſmall ſhrivelled grain, hardly of a quality fit to be uſed for ſeed next ſeaſon, unleſs people are compelled to do ſo by imperious neceſſity. Whether the diſeaſe which infected theſe plants was occaſioned by inſects at the root or on the ſtalk, or by atmoſpherical influence, is an undecided queſtion; but the conſequences will be felt in more ways than one, becauſe in many diſtricts the working ſtock are chiefly ſupported through the winter months upon the fodder of thoſe grains. Suppoſing the fodder ſhould contain its uſual nouriſhment, which is a doubtful circumſtance, ſtill it will not go one half ſo far as in other years, having in a manner melted away before harveſting; of courſe, the expenſe of ſupporting working ſtock muſt be greatly increaſed.

Notwithſtanding

Notwithſtanding of the ſhort crop, and the alarming condition in which a great part of it remains, markets are not ſo materially influenced thereby as might have been expected, having on the whole been dull, and lower for wheat than in the preceding quarter. So far as reſpects wheat, the want of demand may be attributed to the full ſtock of flour on hand at the commencement of harveſt; to the general imperfect condition of grain, which would not allow of ſpeculation, eſpecially when the old ſtock in hand was conſiderable; and to the heavy loſs ſuſtained laſt ſeaſon by corn dealers, which makes them, in this one, ſhy of making extenſive purchaſes. The want of oats and beans muſt, however, ultimately cauſe a greater demand for other grains, and occaſion the prices of the ſeveral varieties to be more upon an equal footing than at this time.

This has been a bad year for the grazier, live ſtock of every deſcription having gradually fallen in value ſince midſummer. The fall may ſafely be eſtimated at 25 *per cent.* on many kinds of cattle and ſheep, though on good Highland wedders and Cheviot ewes it may not be more than one half of that rate. The rent of breeding farms has, for a year or two paſt, advanced even more than that of arable ones, therefore the depreſſion upon ſtock muſt be ſucceeded by ſerious conſequences to thoſe concerned in ſuch undertakings. The feeding farmers, who make annual purchaſes, literally gave away their graſs for nothing, having in many inſtances a difficulty of obtaining, for fat, the price originally given for lean ſtock.

The leguminous articles of potatoes and turnips, have in a great meaſure failed, and threaten to be of no great value. The firſt mentioned article cannot be reckoned as exceeding half a crop, whilſt the quality is imperfect, and in danger of being rendered worſe from the wet ſtate of the ground, in which one half of the potatoes are ſtill depoſited. Of turnips, fewer were ſown than uſual, and many fields failed. High prices have therefore been given for this root.

The important operation of ſowing wheat is tolerably forward in the early diſtricts; but in thoſe of a different deſcription it is preſumed the quantity ſown this ſeaſon will comparatively be of much leſs extent than uſual. Thin ſoils, ſteeped with rain, are unfit for receiving the ſeed grain, either periſhing it in the firſt inſtance, or throwing out the young plant afterwards. Perhaps wheat has lately been cultivated upon much land which would have yielded the poſſeſſor a better return had it been been occupied with oats. At all events, the riſk is great when wheat is extenſively ſown on thin ſoils, unleſs the after ſeaſon be very favourable.

We ſhall now proceed to detail the accounts tranſmitted to us from the different diſtricts of the iſland. From them it will appear, that the condition, and in a great meaſure the productiveneſs, of the ſeveral grain crops, depended upon the ſtage they had advanced to in the firſt week of September, when a furious northerly ſtorm damaged them ſo much as to ſtop almoſt every degree of after improvement. In the early diſtricts, chiefly thoſe of England and the ſouth-eaſt coaſt of Scotland, no material damage was ſuſtained from that ſtorm; but in others,

others, where the corn was not then ripened, the conſequences appear to have been dreadful. A ſucceſſion of froſty weather increaſed the calamity; and being followed by wet weather for an uncommon length of time, the crops of the late diſtricts were placed in a worſe condition than almoſt ever remembered. During the cold weather which kept back the late diſtricts, the crops in the early ones were, however, ſafely harveſted, and, with the exception of beans, will furniſh grain of excellent quality, though perhaps not ſo much in quantity as in more favourable years.——*October* 31*ſt.*

SCOTLAND.

Selkirkſhire Quarterly Report.

The latter part of ſummer was favourable for the growing crops, but the month of September was not ſo propitious, both corn and graſs being then either drenched with moiſture or blaſted by froſty weather. On the 6th of that month much damage was ſuſtained from an uncommonly fierce ſtorm of wind and rain, which broke down the corns, *beſhed* the potatoes, and even injured the turnip fields conſiderably. A ſevere froſt followed, which continued for a week; and ſince its departure there has rarely been a day free from rain. Harveſt work was, of courſe, greatly impeded, and a conſiderable quantity of corn ſtill remains in the field. The portion which is ſtacked is not in the beſt condition; but it was impracticable, in ſuch a ſeaſon, to get the ſheaves altogether dry. Oats in general would have been a good crop, had not the above circumſtances impeded their progreſs to maturity. Peas were entirely conſumed in many places by the black caterpillar. Turnips are ſcarcely equal to an average, and potatoes are greatly below it. Paſture graſs looks well; but live ſtock of all kinds has little demand, any ſales made being at prices conſiderably reduced. It is to be feared that matters are not yet at their worſt; and if ſo, he that runs may read the inference. ——19*th October.*

Inverneſsſhire Quarterly Report.

Harvest commenced in the neighbourhood of Inverneſs about the 24th of Auguſt, and weather continued favourable for two or three weeks, ſince which it has been unſettled and variable. A great deal of corn is ſtill in the field, and preſent appearances are againſt its being ſoon brought home in a huſbandman-like condition. Inceſſant rain has poured on for two days paſt, with an uncommon heat, which threatens to make the grain ſpring immediately. In a word, the crop is light, greatly below an average, whilſt exiſting circumſtances leſſen its value in a degree not eaſily aſcertained.

The potatoe crop is materially deficient, which will be ſeverely felt over all the Highlands. On the night of September 8th, an intenſe froſt blackened the ſtalks of the plant, and ſtopped its future growth; ſince which, ſmall improvement has been made by the root. Turnips, with a few exceptions, are not one third of a decent crop; and cattle and ſheep, which through the ſummer brought low prices, may be reported as totally unſaleable. Very little of the new crop is yet ſold; but the

the dread of a ſcarcity of provender has cauſed oats to be commonly ſold upon the ground at 40s. per boll of five firlots.——*22d October.*

Bonſſhire Quarterly Report.

THE weather, during the firſt three weeks of this quarter, was uncommonly mild, and proved highly favourable to the filling proceſs, where the crops had arrived at that ſtage. A great part of the oats kept long in a growing ſtate, and conſequently, received conſiderable damage by a moſt ſevere ſtorm on the 6th September. Since that time, the weather has by no means been favourable towards the ripening of grain; ſo the quality thereof will neceſſarily prove defective. Where trials have been made, the reſult ſhows they are above a fourth part ſhort of meal. A ſevere hail ſhower about the 10th September did conſiderable damage where it went along, but its effects were only partial, although ſome individuals have ſuffered deeply. Harveſting has been much interrupted by repeated falls of rain; but as theſe were ſucceeded by blowing weather, the greater part of the crop is now got ſecured without much damage. The crop turns out to be of very little bulk; generally ſpeaking, little more than half of laſt year's; and produce muſt be conſiderably below an average. Bear is of very good quality; but as the ſowing of this article has been circumſcribed, it makes but a ſmall part of the crop, which may be ſeriouſly felt when a barren year happens. Wheat is very ſound grain; but being thin upon the ground, cannot make a great return.

Although a conſiderable demand prevailed towards the end of ſummer, for cattle of the better ſort, but at prices conſiderably under laſt year's, yet there is by far too great a ſtock on hand for the provender, eſpecially as turnips have failed to a greater degree than uſual. They were only beginning to apple when the ſtorm attacked them, and, in general, have done little good ſince that time. A great ſlaughter muſt take place this winter, otherwiſe the remaining ſtock of cattle cannot be ſupported. Potatoes are not half a crop, and of ſo bad a quality in moſt inſtances, that they are ſcarcely eatable. There is no wheat ſown as yet, and very little proſpect of getting much ſown this ſeaſon. The weather is dreadful at preſent, and the ground ſo wet, that ſcarcely any animal can go upon it. The turnpike roads are now nearly finiſhed, and have gone on with greater rapidity than could have been expected in a county ſo far removed from commercial intereſt. But the commutation roads have made no progreſs; and unleſs the proprietors enter with ſpirit into the meaſure of repairing them, the country will be ſubjected to great inconvenience, many of the old roads being quite impaſſable, ſince the ſtatute labour was withdrawn from them.—*23d October.*

Letter from a Gentleman in Ayrſhire, October 23.

'THERE has not been a ſeaſon ſince the memorable 1799, to the preſent time, in which more caution was requiſite in deſcribing the ſtate of the country. Such erroneous and defective reports as we ſometimes find detailed in newſpapers, by intereſted perſons, ſeldom do good, and are often productive of miſchief. The leaſt part of the evil they do, is miſleading people's minds, by raiſing expectations which perhaps cannot

not be gratified, thereby rendering them diſcontented and peeviſh; they are much oftener the occaſion of mobs and riot, and of excit- reproach and execration againſt farmers and dealers in any of the ſſaries of life. Theſe, like every other commodity, ought to be to find their own level, according to the quantity and the demand. here is plenty, all the arts that avarice can deviſe, and the moſt nerous combinations, cannot make things dear. And if a ſcarcity ld happen, it is impoſſible they can be cheap, though the newſ- ers, from one end of the kingdom to the other, ſhould proclaim ity. The leaſt that people, who have been guilty of ſuch conduct, ht to do, is to correct their information as ſpeedily as poſſible; and , by ſilence, as too frequently happens, endeavour to continue the ption.

We may all remember what happened during the period above-men- ed. While next to a famine was ſtaring us in the face, the newſ- ers trumpeted aloud the goodneſs and excellence of the crop, and ouraged the belief that the ſubſequent ſcarcity was occaſioned by ners hoarding up their crop; and the ſtrong fact, of about fifteen mil- s ſterling being expended in the purchaſe of foreign grain, has not ceived many to this day; and, I believe, it is alſo an undiſputed , that ſcarce a ſingle newſmonger ever attempted to correct the miſ- e, or to lower the ſanguine hopes which they had once raiſed. My nion has uniformly been, that in all accounts of the ſtate of crops, other neceſſaries, the reporters ought rather to err on the other ſide, ch may have the good effect to make every one more frugal, atten- , and ſtudious to accommodate themſelves to their ſituation.

I think it neceſſary to make theſe obſervations, as introductory to very unfavourable report which I have to give you of the preſent e of this county; and, for this reaſon, that the ſame thing has hap- ed this year as formerly, viz. the moſt flattering accounts of the verſal plenty, and excellence of the crops.

We had at one time the proſpect of a moſt abundant crop; but the es and expectations of the farmer were never more completely baffled n they have been of late. The firſt ſtroke which the crop received, from a ſevere ſtorm upon the 6th of September.—As there was at t time but very little cut down, the ſtorm generally laid it as flat as t had been rolled; and by twiſting and warping the ſtalks into one ther, occaſioned great expence and difficulty, beſides loſs, in taking p. To this ſucceeded a pretty keen froſt, in the ſecond or third k of that month, the effects of which are not yet well aſcertained. t, what is ſtill worſe than both of theſe cauſes put together, is the moſt perpetual rains that have taken place for rather more than a nth paſt. Towards the commencement of this rainy weather, there a conſiderable quantity of crop cut down, but not much got into the a yard; and it is within little more than a week paſt, that any thing conſequence has been got in at all. Where corn has been expoſed upwards of four weeks in the ſtook, to almoſt continued rain and nds, it is perfectly unavoidable but ſevere loſs muſt be ſuſtained;—

growing is therefore univerſal, and to ſuch a degree, that it is frequently viſible at a diſtance; and, beſides the loſs ſuſtained by growing and rot, what is ſafe is become ſo free, that the leaſt motion makes the grain ruſh off the ſheaf as if under the proceſs of thraſhing. According to the beſt information, at leaſt the full half of the crop throughout the country is yet in the fields; much of it in the ſtate above-mentioned, and, in ſome places, a good deal of it yet to cut. Take it altogether, the oldeſt people do not remember ſuch a long continued rain during the harveſt months. If good weather does not ſet ſpeedily in, the greateſt danger is, undoubtedly, to be apprehended; and even though a change ſhould happen to our utmoſt wiſhes, immenſe loſs both of corn and ſtraw muſt take place.

'What further adds to the diſtreſs is, that in conſequence probably of ſomething in the ſtate of the atmoſphere, in the earlier part of the ſeaſon, the peas and beans have almoſt univerſally failed. Even where there is ſome ſtraw, there is no fruit. Many people ſay that they will not have near the ſeed of the peas that were ſown. The potatoes, at one time, appeared to be moſt abundant; but wherever they happened to be planted on flat and low-lying ground, and, of courſe, have been for ſuch a length of time immerſed in water, they are beginning to rot to a great extent. Such are our preſent proſpects with regard to crop. There are ſome appearances to day of a change of weather; but ſuch appearances have ſo frequently, this ſeaſon, diſappointed every proſpect of fication, that it is impoſſible to avoid a little anxiety.

'I am extremely ſorry that I am obliged, from regard to truth and juſtice, to add to this diſmal account of the ſtate of our crops, an equally diſmal account of the ſtate of our cattle markets. Breeders and graziers complain of a general ſtagnation, and a declenſion in price to a very conſiderable amount. There is, perhaps, no exaggeration, when this declenſion is ſtated (at leaſt) at thirty per cent. Wages of farm ſervants and mechanics are nothing abated, but rather continue on the increaſe.

'The citizen and manufacturer will ſurely this year ſympathiſe with the Weſt Country farmers. They muſt at leaſt be ſilent, if they will allow themſelves to reflect on the fatigue endured, and the loſs ſuſtained from a wet and windy harveſt; on the great riſe of rent, and price of farm labour of late, and the dearneſs of all farming implements; on the many public and parochial duties exigible from us; and, in addition to all theſe, the 10 per cent. to be levied this year, according to our rent, or ſuppoſed value of our farms. This aſſeſſment may be neceſſary in preſent circumſtances; but the *mode* of aſſeſſment is ſo intricate, nay, arbitrary, that it would puzzle the genius of the firſt accountant to determine the rule of calculation upon which the aſſeſſor proceeds. In ſhort, our ſituation, take it altogether, at the preſent moment, is not an enviable one.'

Letter from Falkirk, October 24th.

'The operations of harveſt cloſed, generally, in the Carſe diſtrict of Stirlingſhire, about the 10th inſtant, after a great deal of very unfortunate perplexing weather. During the latter part of that period particularly, we ſcarcely ever had it dry for twenty-four hours together. As the

ains were, however, generally accompanied, or immediately follow-
y very high winds, little injury was ſuſtained from wetneſs. But
ly different, indeed, is the ſituation of the moor lands in our neigh-
hood. There, a great deal is ſtill out in a half rotten ſtate, and much
o ſhear, which will ſcarcely be worth the expenſe of cutting down,
e weather ſtill continues exceſſively wet. Wheat is our beſt crop.
not ſo bulky; but, in quality, ſuperior to that of laſt year; and
ng been got into the ſtack yard in excellent condition, and very
will be fully equal to a fair average. Both barley and oats are
ient; and if the circumſtances of the moor-lands, where ſcarcely any
but oats is cultivated, are taken into the account, we may reaſon-
expect this article will fall much ſhort of the ordinary ſupply; and
ew trials of the new crop that have yet been made at the mill, do
promiſe by any means to make up for the deficiency in bulk, as I
rſtand they are giving conſiderably leſs meal than laſt year.

When laſt report was written, July 25th, beans were ſtated as our
crop in the Carſe. At that time they were remarkably luxuriant,
promiſed to be very fruitful; but a ſad change ſoon took place,
h completely blaſted all our expectations with reſpect to them.
y began about that time to blacken and decay; and the diſeaſe, or
tever may have been the cauſe, continued till they came to the ſic-
They are not half a crop, and of inferior quality. Potatoes are
a crop of conſideration in the Carſe, being cultivated on a ſmall
, generally for mere family uſe. As far, however, as they may be
ed, they are deficient both in quantity and quality. The diminu-
appearance of the ſtack-yards will, at a ſingle glance, give much
m to apprehend a ſcarcity of fodder; indeed, the rapid riſe in the
e of hay, and the already extravagant idea of the value of ſtraw,
ther with the fall in the price of lean cattle, puts this almoſt be-
l a doubt; although much muſt depend on the openneſs or ſeverity
he enſuing winter. The ſowing of wheat is much behind what u-
y occurs in this diſtrict. What was early put into the ground has
rded well. Much, however, even on fallows, remains to be done.
h our ſoil and climate, it is very uncertain if ſuch will be got ſown
ll. The fields were quite overflowed two days ago; and it can
rely be expected that they will be in tolerable condition again this
. In our grain market, wheat is little in demand, and at a low
e. New, of good quality, not exceeding 30s.; beſt old 36s. per
, Linlithgow ſtandard meaſure. With other articles, however, this
s the caſe. Barley 34s. Stirlingſhire meaſure. Old beans as high
os.: New, far from good in quality, 35s.; the meaſure a little leſs
wheat, I believe about 5 per cent. Oat meal 1s. 8d. per peck, and
cted to be ſoon higher.

The number of cattle preſented at the laſt tryſt was uncommonly
t, the moor appearing every where crowded. The ſellers ſhowed
t anxiety to do buſineſs; but this was not met by a correſpond-
readineſs on the part of the buyers, who were more ſhy in con-
ing bargains than uſual. Prices conſequently declined, probably

20 per cent. below laſt year, at leaſt for lean; and even fat were cheaper At the end of the week, many remained unſold, which, with the loſſes already ſuſtained by the dealers, the diſtance ſome of them had to travel, and the great difficulty of procuring food to hold them on, muſt prove an unprofitable, and, to many, a ruinous concern.'

Morayſhire Quarterly Report.

'SINCE ſeed time commenced, the weather has, in this county, been much in extremes;—at firſt the ground was parched by drought, afterwards inundated with rain, which has occaſioned a very unequal growth, and conſequent indifferent quality both of oats and barley. Under theſe diſadvantages, two thirds at leaſt of the crop are ſecured in tolerable condition; but the remainder lies in the fields, partly uncut, and in the moſt perilous ſituation. For the laſt four days and nights it has rained inceſſantly, and the damage muſt be immenſe. It is not likely that this exporting county, if it ſupplies itſelf, will, next ſeaſon, have either barley or oats to ſpare; while in the article of wheat, perhaps three fourths of the uſual quantity, of medium quality, may go on ſhipboard; but little of this grain has been got ſown this year, and what there is, lies ſoaked amongſt water.—Farmers muſt now truſt to ſpring ſowing, with much loſs to many fields already dunged and ready for the ſeed. No price for new wheat is yet fixed, and the old is all off; neither have any new oats or barley been offered for ſale, while the old of both ſorts gives 27s. to 28s. per boll, rating the former at 5 firlots Stirling meaſure.

Cattle have continued to drop in price ſince the firſt of June, and the beſt are now almoſt unſaleable, at prices 20 *per cent.* under laſt year; while inferior ſorts cannot be got off on any terms. This, with an unuſual ſcarcity of ſtraw, will occaſion a great demand for that article, and at prices far beyond its ordinary value. Two guineas per boll for barley and fodder is already talked of, and poſſibly may be ſubmitted to. Hay ſells at one ſhilling per ſtone of 20 lib. Amſterdam, and is likely to be higher. Turnips are in general a very poor crop; potatoes, a middling one, and the quality good; indeed that uſeful root ſeldom fails in this county, and the curl was never known in it.—*24th October.*

Letter from Inverneſs-ſhire.—October 24th.

'FARMING matters are in a bad ſtate here, half of the crop being ſtill in the fields; and there is no ſaying the extent of evil which may follow. Every day, for ſome time paſt, has furniſhed us with a deluge of rain, ſo that it was impracticable to execute harveſt work; and as for the potatoes, there is ſmall proſpect of getting them out of the ground; therefore it will be a hard winter for many perſons. On well managed lands wheat appeared to be a decent crop; barley tolerably good; oats ſo and ſo; but the crops of the common farmers failed almoſt entirely, and they are buying corn and ſtraw at roups at enormous rates, ſo as their cattle may be preſerved alive through the winter months. Turnips are no better than half a crop; and as for cattle, the fall of price is ſo great, that an ox, for which 12l. would have been given laſt year, may be bought at 8l. or 9l. Juſt now barley is ſelling at 32s. p. boll; and oat-meal at 28s.'

Buchan Quarterly Report.

We had a wet, cold and late ſpring, and a very droughty ſummer. reat deal of rain fell in Auguſt; and on the 6th and 7th, and again he 11th and 12th September, we experienced the moſt ſevere ſtorms remembered at that ſeaſon of the year. Indeed it was more like end of November than the beginning of September, and would have thought very bad at any period. The wind, rain and ſnow, beat n the corns as completely as if the weightieſt roller had been drawn them. It was a diſtreſſing ſight; for at that time harveſt was commencing, and not a ſheaf of the crop ſecured. The weather ever e has been rainy, ſcarcely two dry days together; yet the crop as not to have received very material injury. On the whole, this rter may be characterized as exceedingly unfriendly to every kind of l work; and the operations of the farmer have ſeldom been carried with greater trouble, or at more expenſe. The crop is almoſt all cut, nearly two thirds of it got in; but, as may be ſuppoſed, rather in a ap ſtate; and, in conſequence, danger is dreaded from heating in the rick. le wheat is ſown in this diſtrict. Bear and oats are conſiderably cient in bulk of ſtraw, and may be ſtated at 15 *per cent.* below ave- e; but it is apprehended the deficiency in grain will rather exceed t proportion. The lateſt oats thought not to be very productive in l. Beans and peas a very poor crop. Turnips promiſed well; , ſince the fatal ſtorm in September, have made little progreſs, and be but indifferent. Potatoes deficient, both in quantity and lity. Hay a light crop. Fallows a perfect mire. There has n no ſales of new grain. Oat meal has been advancing for ſome e, and is now ſelling at 1s. 4d. per peck of 8 lib. Amſterdam. f 2½d. to 5d.; Mutton 4d. to 6d. per pound of 16 oz. Amſterdam. y from 9d. to 1s. per ſtone of 20 lib. Amſterdam. Rather an over- k of lean cattle; and no demand. Land rent is ſtill advancing;— is ſervants' wages;—the rates for dyking, ditching, &c.; and, in , every article the farmer has occaſion for. The weather continues be bad; the ſtooks are completely ſoaked, and in a moſt deplorable dition.——*Oct.* 24.

Roſsſhire Quarterly Report.

So unfavourable a ſeaſon as this one has not occurred to farmers in north of Scotland, for many years. The crops of corn are gene- y light,—cannot be expected to meal well,—and one half of them in the fields, with the proſpect of receiving conſiderable damage; a great deficiency may be looked for in this county. Potatoes, the ncipal article of the food of the poor, are likewiſe a ſhort crop; and wetneſs of the ſeaſon has injured their quality.

To add to theſe miſeries, cattle have decreaſed in value to a moſt ous extent. In laſt report it was ſtated, that a fall in price, of 20 *cent.* had taken place; and, at the Beauly market on the 21ſt and d current, there was a further fall of 20 *per cent.* So that lean tle are now very low indeed.

Harveſt did not commence in this county till the beginning of Septem- ; and, on the ſecond week of that month, the moſt ſevere weather ſet in

ever recollected at that period of the ſeaſon. We had two weeks of exceſſive cold, boiſterous weather. Many of the hills were as white as they will be at Chriſtmas; and a great proportion of the crop being then unripe, it may readily be ſuppoſed that the filling proceſs would be much retarded. For the two laſt weeks, almoſt nothing could be done to ſave the crop. The weather has been perpetually moiſt, and, for ſeveral days, there has been inceſſant rains, which being now followed by frost, cannot fail to produce ſprouting. No price has been yet ſpoke of for new corn, excepting barley, for which 30s. per boll have been given. Turnips are not more than half a crop. In fact, every thing is greatly behind an average; and nothing but a high price, for what the farmer has to ſell, can indemnify him for the loſſes of this year.—*Oct.* 25.

Weſt Stirlingſhire Quarterly Report.

The weather, for a ſeries of months, has been ſingularly unpropitious to the farmer. A ſeaſon ſo long precarious, and ſo uniformly unfavourable, is not remembered for many years. Rains have prevailed, with few and ſlight interruptions, always accompanied with high floods, which overflowed the low grounds lying on the banks of rivers; and frequently with thunder, which, in the higher diſtrict, has been fatal to cattle—and, on ſome occaſions, to man. In the beginning of September we had a week of ſevere froſt, which prematurely whitened every ſpecies of corn, and entirely deſtroyed the ſtems of potatoes. A month of mild weather, and inceſſant rain, afterwards enſued; and now, though the ſummits of the Grampians are covered with a ſnowy mantle, —though ſhowers of hail often deſcend into the plains,—and though froſts occur in the morning, the ſeaſon has not ſettled; and a day fair from morning to night is rarely to be found.

The harveſt was partially begun in the laſt week of Auguſt. Wheats, from being early and long laid with rain, were beginning to germinate in the ear, before they could be raiſed by the ſickle. As there were ſometimes two fair days in ſucceſſion at that time, this grain was harveſted in good order, and proves, in general, not below the average. Beans have generally failed. Even the beſt fields were found to have the pods flaccid, and the beans ſhrivelled. In the higher diſtrict, harveſt was not generally begun till the middle of September: ſtill there are many fields of corn to be cut down, and theſe are very far from being ripe. Notwithſtanding the utmoſt exertions, not one half of the crop has been harveſted there; and that which is left on the field, muſt probably be loſt, if the weather do not ſpeedily improve.

Markets of grain are evidently threatening to be high. Few farmers have had time to thraſh and grind any of their crop; and ſtill fewer are willing to diſpoſe, at preſent, of the produce. Meal is ſcantily retailed at 22d. per peck, and is expected to riſe immediately to 2s. Cattle of all kinds are greatly depreſſed in price. At the late markets, no rent was given for their paſturage during ſummer; and often they were ſold ten *per cent.* cheaper than when bought in ſpring.——26. *Oct.*

Wigtonſhire Quarterly Report.

The promiſing appearances of an abundant crop, which this diſtrict pretty

pretty generally exhibited at the date of laſt report, have been very partially realized.

Few harveſts remembered have been more unfortunate in weather; for heavy and repeated rains have prevailed throughout. Little corn was cut down until Auguſt had paſſed; and the whole intereſting month of September ſcarcely afforded fifteen working days without ſerious interruption.

The winds and rains had chiefly come from the ſouthward, and the grain, therefore, was inclined or lodged in the ſame direction; but, on the 5th and 6th of September, it blew a violent and conſtant gale from the northward, accompanied by a heavy rain, which, of courſe, toſſed and damaged the growing corn in the moſt diſaſtrous manner, occaſioning very ſerious loſs in the process of reaping, independent of ſhake in expoſed ſituations.

Some were fortunate enough to accompliſh the buſineſs without much further loſs; but by far the greater number have ſuffered ſeverely, in ſpite of the moſt active perſeverance; and, at this very moment, the grain is not *every where* cut down. Many fields repreſent the melancholy reality of an entire crop periſhing in the ſtooks, without the farmer being able, by any means, to prevent the ſad calamity.

It is not yet aſcertained how far theſe evils have extended; but the accounts are almoſt equally bad from the north of Ireland, the north of England,—and the weſt, as well as the ſouth, of Scotland.

The weather has been more favourable for a few days, and things are going on as faſt as poſſible; but there has been an unuſual ſcarcity of hands, and a conſequent advance of wages, proceeding, in a great meaſure, from the militia ballot having frightened off our Iriſh aſſiſtants.

The bear crop is almoſt, if not entirely and univerſally good for nothing. This misfortune is generally believed to have been produced by lightning in the end of ſummer, and is aſſerted to extend as far as Carliſle and Glaſgow. How much further, is not yet known here.

To render our ſituation the more diſtreſſing, a grievous depreſſion has taken place in the cattle market. The extravagant rents of graſs land muſt be paid for nothing, and the breeder muſt ſuffer in his turn. Hopeful times! A few ſuch years in ſucceſſion, and the gilded bubbles of ſpeculation will aſſuredly burſt.

But this diſtrict muſt now be reported cautiouſly, otherwiſe the wiſe and good men, who, with ſo much credit to themſelves, direct and arrange the affairs of a certain reſpectable ſociety, would not fail to lift up their teſtimony againſt the reporter, and might even urge the neceſſity of a *ſpecial meeting*, in order to procure from the worthy members, an unanimous expreſſion of the higheſt indignation. —*October* 26.

Mid-Lothian Quarterly Report.

The commencement of harveſt was more early, but its termination threatens to prove fully as late as was previouſly expected. Conſiderable quantities of oats ſtill remain in the fields, and indeed ſome are yet to cut in the upland diſtrict of the county, for which, from the late con-

tinued rains, and advanced period of the ſeaſon, a propitious ingathering can hardly be expected.

On the evening of the 5th of September, commenced a torrent of rain from north-eaſt, with a high wind, which poured inceſſantly all night, and the whole of next day:—As ſoon as day-light appeared, it was foreſeen that the haughs along the Almond would be overflown.—All hands were therefore ſummoned. Men and horſes with carts were volunteered by the neighbourhood, to aſſiſt in removing the reaped grain out of the water's reach, which was only effected with a partial ſucceſs. From the drenched ſtate and weight of the grain, conjoined to the wetneſs of the ſoil, the cart wheels and feet of the horſes ſunk ſo deep into the ground, that the loads of courſe were from neceſſity trivial, and progreſs ſlow. This, in the midſt of a terrible deluge, and increaſing height of water, became too much for animal ſtrength; therefore men and horſes were exhauſted, and obliged to deſiſt from ſo oppreſſive a conflict with the elements. Whole fields of reaped grain were ſweeped away, and depoſited on the grounds of others; nay, even ſome dunghills ſhared the ſame fate. Such an inundation has not occurred during harveſt within the memory of any people living, nor indeed in any period of the ſeaſon ſince the memorable 17th of November 1795, which did ſo much miſchief over all Scotland.

Fortunately ſome of the ſucceeding days furniſhed ſmart dry weather, which allowed the waters to abate, and exhibited a ſcene of great confuſion. Many fields of grain belonging to different individuals, and of different ſpecies, were found depoſited in cumulo upon the fields of neutral perſons, a portion of them being carried to the ſea. It became no eaſy matter for each claimant to identify his own; and it is ſaid that, *on this account*, amidſt the general wreck, ſome were rather gainers.

In ſuch a ſituation, the difficulty of ſelection, of conveying home, of ſpreading and drying, was a taſk of the moſt arduous kind. Thoſe fields that were uncut, were levelled to the ground amidſt the ſand and mud left by the flood. From this cauſe, ſome of it that has been thraſhed, throws off ſuch a quantity of duſt, as almoſt to blind and ſuffocate the people employed in the operation; and, to a perſon at a diſtance, exhibits the appearance of a homeſtead going to riſe into flames.

Luckily, although this calamity falls heavy upon individuals, yet its extent is not ſo great as to affect the public ſo materially, as perhaps the immediate ſucceeding hoar froſts have done in the upland parts of the county.

On the 8th and 10th of September, at ſun-riſing, the thermometer ſtood at 35, and on the 17th and 18th, at 33, in an altitude conſiderably below the medium of that part of the county under aration: the degree of cold and froſt may therefore be conjectured in ſituations ſome hundreds of feet higher; there, ice made its appearance, of conſiderable thickneſs. In thoſe ſituations where the ground was flat and low, with the ſoil of a ſoft texture, the grain froſted, and was rendered unfit either for the mill or for ſeed: on ſoils of a more hard and compact nature, although fully as high froſt has not had a ſimilar effect; but the grain never

never did much good after the miſchievous 6th of September, where not previouſly filled. From trials that have been made in thoſe ſituations which, in ordinary ſeaſons, uſually produced 12 and 13 pecks, and in favourable years 14 pecks, this ſeaſon only give from 6 to 8 pecks per boll; and this obſervation is ſtill more applicable to many other counties than that of Mid-Lothian. In ſhort, ſuch a ſeaſon has not occurred, with the exception of the years 1782 and 1799, for all high climates. Very different is it with the low diſtrict of the county; for although the harveſt proved tedious and irkſome, ariſing from the frequent interruptions by wet weather, yet theſe were uſually ſucceeded by fine blowing weather, which counteracted the baneful effects of the rain: there has been no loſs by ſhaking, no ſpringing, nor any neceſſity for unlooſing the grain to dry:—hence the crop is well got.

The ſtack yards, however, are ſmall, and thought to be from one-fourth to one-third deficient in bulk, but are expected to give well. Wheat may be rated at rather more than a medium crop; oats and barley at ſomething leſs; beans and peas greatly below an average.

The potatoe crop is by no means productive: in ſome inſtances the root is ſpoilt in the ground; while all of them eat ſoft and waxy, and a large portion are ſtill to raiſe. Wheat ſowing, although well advanced, is not near completed. There are yet one-third, or perhaps two-fifths to make up and ſow, which, from the preſent aſpect of the weather, will not be accompliſhed in a hurry.——*October* 26.

Dumfriesſhire Quarterly Report.

The weather for the laſt three months has been variable, and produced both good and evil to the farmer. In the beginning of Auguſt, there was an appearance of a plentiful return from all the corn crops cultivated; the weather through that month being ſuch as raiſed a general expectation that the corns would be well filled, and the harveſt early. Accordingly, wheat and barley, which had been advantageouſly and early ſown, were cut down in good condition in the laſt week of Auguſt and firſt week of September, and were ſecured almoſt wholly, by the 12th of that month. Potato oats, and other oats of the early kinds, were alſo cut down generally, in low and dry grounds, in Auguſt and firſt week of September: theſe were harveſted without injury. But crops of all kinds which were not ready by the 5th September, ſuſtained conſiderable loſs. The remarkable ſtorm of wind and rain on the night of the 5th, and on the 6th, broke down a great deal of the ripe corn, particularly that expoſed to the north-eaſt. And a conſiderable quantity was ſhaken from that which was ripe or nearly ſo. Wheat in this ſtate ſuffered moſt.

The general froſts which ſucceeded and continued for four or five days after the 12th of September, added greatly to the injury done by the ſtorm, particularly to oats which were not ripe, and to potatoes. But it has ſince been remarked, that theſe froſts did much more injury to green corns on the low grounds, than on higher expoſed ſituations. And this appears to hold as to potatoes as well as to corns.

The weighty rains and general moiſture in the air, which continued

to

to the end of September, and through moſt of October, have occaſioned conſiderable loſs to the crops, not only in high ſituations, but alſo to ſeveral of thoſe which were in better ſoils and climates, eſpecially where the day or hour for ſaving them was loſt, by neglect or otherwiſe. The effects of the weather afford at this day an unpleaſant proſpect, not only in the high grounds, but alſo in the other ſituations comparatively low, where moſs and cold clay predominate.

In this county, the crops generally, as before obſerved, would have been in all appearance abundant, had it not been for the ſtorms and froſts; but thoſe which ſuffered or were afterwards expoſed to the effects of the rains, muſt prove ſhort and bad in quality. Judging of the whole from the circumſtances mentioned, it is believed that the crop of wheat may juſtly be called good, and that both it and barley are equal to an average. The oats, however, are far from being ſo, though generally, in the low dry grounds, they will prove good. Yet, ſo great a proportion of this article is raiſed on high grounds and cold ſoils, that, on the whole, there muſt be a conſiderable ſhortcoming.

The crop of peas has been loſt by a ſmall green worm that affected them when the pod was beginning to form. Moſt of the fields were mown for fodder. Peas are not very generally cultivated here; thoſe that are raiſed are by the middle claſs of farmers; and the loſs will be felt where they were neglected to be mown down in proper time.

Of all the injuries ſuſtained in the courſe of the ſeaſon, nothing appears ſo conſpicuous as that of the potatoes: thoſe of the early kind, and of all kinds which were planted early, are held to be a middling crop; but thoſe which were planted about the end of April, or within the month of May, were neither arrived at their natural growth nor conſiſtence when the froſts came on; and thoſe in low or hollow ſituations, do not appear to have improved ſince then in either reſpect. The injury thus done to farmers of the lower rank will be very extenſive, becauſe much money has been brought to them by the feeding of ſwine; and it muſt alſo affect conſiderably the expenſe of living of the labouring people. If other counties are affected in the ſame manner, it will no doubt increaſe the demand for oat meal.

The times have afforded a ſort of regular demand for cattle and ſheep; but the prices have conſtantly been on the decline; and though they cannot be called low, ſpeaking of the average prices for the ſpace of an ordinary leaſe, yet, the ſales of the preſent year appear to be much againſt the farmer and dealer. The prices, however, of aged ſtock, in condition, ſeem ſtill to be good; and it is only lean and young cattle, which appear to be over numerous, that are moſt fallen in price. The ſame may be ſaid of ſheep.

The turnip crop ſuffered early in the ſeaſon by the fly and the drought, which kept them far back; and they are neither regular nor of an ordinary ſize. The preſent weather, however, keeps them growing, but there is little or no proſpect of their being a full crop.

A few of the hiring markets have yet been held. In theſe the wages

are

are lower; both of men and women, generally about 20 *per cent.* under laſt year. —— *27th October.*

Forfarſhire Quarterly Report.

A SEVERE hurricane of wind and rain on the 6th September, did much damage to the crops in general; and in particular, with the froſts which followed, prevented ſuch corns as were late, from filling much afterwards. The preceding harveſt has been rather tedious; and yet, the injury ſuſtained by wet weather cannot be ſaid to be great. Reaping became general about the firſt week of September, and was finiſhed about the beginning of October. As predicted in laſt Report, the preſent crop is a ſcanty one, and the proſpects of the huſbandman at this time, rather unfavourable.

Wheat is ſomething like an average crop, but the late ſown of that grain is indifferent in quality. Barley is univerſally light, except a few fields that were early ſown, and on thin ſoils is alſo deficient in quality. Oats are worſt of all, and when made into meal, are found defective, at leaſt two pecks of meal per boll leſs than laſt year;—the late varieties ripened very unequally. Potatoes are alſo but a middling crop. Turnips received a ſevere check about the beginning of September, but now ſeem to have a growing appearance; in many inſtances they are thin on the ground, and cannot be reckoned equal to an average. From the ſmallneſs of the ſtack yards, it may eaſily be inferred, that provender will be much in requeſt. The practice of cutting corn by the threave ſeems to be gaining general approbation in this county; and in another year, it is ſuppoſed the greater part of the crop will be cut down in that way;—the price commonly given is 4½d. or 5d. per threave for wheat, and 3d. or 3½d. for oats and barley. Some farmers bind and ſet it for the threavers, others do not. On an extenſive tillage farm, it was found, that the expenſe of cutting was juſt 1 1s. per acre for the whole crop, and a conſiderable proportion was wheat. The advantages of the ſyſtem are, that perſons of all ages, and thoſe who can but occaſionally work, turn out to the harveſt, and a greater ſupply of hands is conſequently got; that the intereſt of the reaper and the farmer being combined in cutting the corn low, a ſhort and clean ſtubble is obtained; and that the trouble of victualling a large number of people is ſuperſeded.

The prices of cattle are very much reduced, and the grazing buſineſs has proved ruinous to ſeverals whoſe capitals were ſlender. It has indeed been hardly poſſible to make any graſs rents, as the prices fell every market; and, from the quantity of young ſtock in the country, it can ſcarcely be looked for that a riſe will ſoon take place.

A great breadth of ground has been ſown with wheat this ſeaſon, and generally the ſeed has been ſafely depoſited, although it may be remarked, that many farmers ſeem more anxious to get a large quantity ſown, than to get the ground in a proper ſtate for carrying a decent crop.——*27th October.*

Perthſhire Quarterly Report.

THE harveſt, even at this advanced ſeaſon, is not over in Perthſhire; a conſiderable quantity both of oats and barley being ſtill in the field, and

many patches are to be ſeen uncut, in ſome quarters of the county. This is partly owing to the backward ſummer, and partly to the rainy autumn. No kind of grain crop is expected to come up to an average one, excepting wheat, and, even of that, much was lodged. It is, however, bulky, and conſidered by ſome people as exceeding an average.

Barley is a light crop, much of it unequally ripened, and no inconſiderable part injured by the froſts in the beginning of September; ſo that, in general, it will not malt well. Early oats were too far advanced before the rain came in Auguſt, to be much benefited by it; of courſe, they are likewiſe a light crop. On the other hand, ſuch as were late, were ſo affected by the early froſts, that, in ſeveral diſtricts, the yield of the mill is unuſually ſmall: ſo that, on the whole, this ſpecies of crop will be very deficient. After the ſummer rains, the Haſtings pea failed everywhere; but ſome fields of grey peas on rich land, were very fine. Beans are a poor crop: even ſuch as continued to vegetate after the froſts, are imperfectly podded. But the effects of the intenſe cold of the ſixth and four ſucceeding nights of September, were more perceptible on the potatoe crop, than on any other. Over all the low-lying part of the county a complete check was given to its further progreſs. Wherever the crop was late, it is not worth the expenſe of taking out of the ground; and on an average over Perthſhire, it will not amount to half a crop, in bulk, and the quality is generally uncommonly bad; from which circumſtance, together with the wet ſtate in which that crop muſt be taken up, a good deal of attention will be found neceſſary to preſerve it through the winter. The baneful effects of theſe froſty nights have, in a greater or leſs degree, been felt over all Perthſhire; but low-lying places were moſt injured; and, what is unaccountable, in ſome other counties, the potatoe, which is the moſt delicate of all crops, was not at all, or, at moſt, only very ſlightly affected.

Wheat ſowing has been much retarded by the late rainy weather. A conſiderable breadth of clover and bean ſtubbles are either unſown, or ſown in bad condition: and in the ſouth-weſtern ſide of the county, many farmers have not got in the ſeed even on their ſummer fallows.

It is ſaid, that, in other places, the price of cattle has fallen from 15 to 20 *per cent.* within theſe eighteen months. But in this county from 40 to 50 *per cent.* is nearer the truth.——*27th October.*

Berwickſhire Quarterly Report.

The weather has been variable and ſhowery throughout the whole of this quarter. Early in Auguſt, the crops were much lodged by thunder ſhowers, particularly luxuriant wheats, which, from that time, became infected with mildew. Harveſt commenced about the 26th of Auguſt, and went on pretty ſmoothly till the 6th of September, when we had a tremendous gale from N. N. E., attended with heavy rain, which continued with little intermiſſion for more than twenty-four hours, and occaſioned the higheſt floods that have taken place for ſome years. On the low river-ſide grounds, a good deal of cut corn was ſwept away, and the uncut greatly damaged. But, when the wide extended devaſtation which ſuch a gale muſt have produced amongſt the ſtanding corn at that critical

cal period, had it been unaccompanied by rain, is duly conſidered, theſe partial loſſes, rather aſſume the aſpect of a favourable compromiſe. Fortunately, at that time, a tract of very cold weather ſet in, which prevented the cut corn from ſprouting, and, though not altogether free of ſhowers, afforded frequent opportunities for in-gathering. The crops in the low diſtrict were moſtly ſecured by the middle of October, without having ſuſtained material injury, though the weather had been ſoft and ſhowery from the beginning of the month; but, in the Lammermuir diſtrict of the county, there is a good deal of corn yet to carry, for which the weather has, of late, been very unfavourable. The current wage of reapers engaged for the whole harveſt was 2s. 10d. per day for men, and 2s. 6d. for women, with victuals.

Wheat may be reckoned to yield an average return; but the quality on ſoft ſoils, in conſequence of mildew and early lodging, is very indifferent. Oats are a light crop, and do not meal well. Barley is a good middling crop, but, from the ſmall quantity now raiſed, very little will find its way to market. Peas having fallen into a decline before harveſt, are poor both in corn and ſtraw; and beans are conſiderably ſhort of an average; ſo that, upon the whole, our crop, taken in the aggregate, will prove rather below par.

The ſeaſon has been unfavourable for the preparation of wheat fallows, many of which are not ſo clean as could be wiſhed; and, from the unſettled ſtate of the weather, a good deal of wheat land ſtill remains to be ſown.

Stock of all kinds has experienced a conſiderable depreſſion; caſt ewes have been ſelling about 20 *per cent.* lower than laſt year; Cheviot ewes not quite ſo much, owing, perhaps, to the great demand from the Highlands for breeders of that variety. No demand from Yorkſhire for Dinmonts. Lean cattle hardly ſaleable; fat, about 6s. and 6s. 6d. per ſtone of 14 lib. ſink.

Turnips have made ſmall progreſs ſince the ſtorm in the beginning of September, and can be eſtimated, upon the whole, as little better than two thirds of a crop; ſo that, from the quantity of ſtock in the country, they are likely to be in conſiderable demand. Young clovers are generally thriving; but potatoes, though luxuriant, do not riſe to their appearance.

Prices at Berwick, October 24th;—Wheat, from 32s. to 40s.; Barley, from 30s. to 32s.; and Oats, from 20s. to 22s. per boll of ſix Wincheſter buſhels.——*October* 28.

Letter from Glaſgow, October 28.

'In this part of the country the weather has been peculiarly unfavourable for harveſt work; and, excepting a ſhort time at the beginning, in which fortunately the principal part of the wheat was ſecured, we have experienced almoſt continual rain. What could not be ſtacked at this propitious period was, in conſequence, greatly injured. In the fields there is ſtill a conſiderable portion of bear and oats, which exhibit to the beholder a truly bleak and gloomy ſpectacle. The ſtooks ſeem completely drenched with the ſuperabundance of moiſture which has fallen; and in the moors, thoſe parts which are always late, we are of opinion, that, unleſs

unleſs a ſpeedy change in the weather take place for the better, the farmers will loſe almoſt entirely the produce of their lands. Potatoes, too, have been much affected by the long tract of wet weather; few now can be found of good quality; they are alſo deficient in quantity. To the weather, likewiſe, we muſt aſcribe the very conſiderable riſe in the prices of barley, beans and oats. Wheat alone continues dull in ſale, and rather looking down. We ſhould think, however, that this ſpecies alſo muſt ſhortly quicken, eſpecially if the preſent high prices of other ſorts of grain be long maintained.

'Our ſtock of grain, at preſent, conſiſts principally of wheat, of which we have a large quantity; of the other ſorts we have but little. On account of the rain, very little progreſs has been made in the wheat ſeed; and, unleſs more favourable weather immediately ſet in, but a ſmall quantity will be ſown in our neighbourhood this ſeaſon.'

Aberdeenſhire Quarterly Report.

It was ſtated in laſt Report, that the weather, which had been cold and backward during the ſeed time and ſubſequent period, was then altered much to the better. The fine weather continued without interruption until the 1ſt of September. Crops of every kind came forward with great rapidity, and amended in an aſtoniſhing manner. Some early fields of bear were cut, and general harveſt ſeemed ready to commence. At this time, however, the weather changed for the worſe; and ſtorms of wind and rain, froſt and hail, ſucceeded each other. The operations in the fields were much interrupted, and the crop, which before was ſo promiſing, now put on a very different appearance. On the 6th and 7th of September, there was an extraordinary ſtorm of wind and rain; and, on the night between the 10th and 11th of the ſame month, there was a tremendous thunder ſtorm, accompanied with ſhowers of hail; one of which, in particular, traverſed the country in a ſoutherly direction, inclining a little to the eaſt, from the ſea, about three miles weſt of Banff, till it paſſed the river Dee, about ten or twelve miles weſt of Aberdeen, extending about half a mile in breadth, and demoliſhing every thing in its courſe, whether oats, bear, graſs or turnips. Beſides this, different hail ſhowers paſſed over ſeveral other places, ſhaking the crop ſeverely wherever they went. So much for the beginning of harveſt. Since then, we have had frequently heavy falls of rain accompanied with high winds; and while the reaping was very much retarded by the one, the other enabled the farmers to get into the ſtack-yard ſuch corns as were ready. At preſent a large proportion of the oats remain in the field, in very bad order, having been thoroughly drenched with rain, from an uncommon fall on Wedneſday, Thurſday and Friday laſt, by which the burns were ſo much raiſed as to bring down and demoliſh ſeveral bridges in the country, and carry off part of the corn remaining on the haughs.

From the above ſtatement of the harveſt weather, no very ſanguine expectations can be formed of the crop; it is neceſſary, however, to obſerve, that the bear crop furniſhes very fine grain, and well got in on the whole, although not widely ſown; and that, as the weather was

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ſo long good before harveſt, great part of the oats were well filled, and turned out far better in the ſtook than they promiſed before reaping. The froſt was partial, and did not extend its ravages very widely; the principal injury is from the hail, ſhaking, and the exceſſive rains, which prevented the whole from coming to maturity, and damaged part of it after being cut down. Theſe things muſt be felt on a crop not at firſt fully equal to an average one.

Graſs has been ſcanty throughout the ſeaſon, particularly ſo ſince the 6th of September; and cattle have been prevented from coming forward in the ordinary manner, from the inclemency of the weather. Cattle in good order have maintained fair prices; the ſmall ones and lean ſtock very low, and ſcarcely marketable.

Neither potatoes nor turnip are good crops, both having been ſeverely checked early in the ſeaſon. ——*28th Oct.*

Upper Annandale Quarterly Report.

The ſeaſon of harveſt has been very unfavourable. The rains of the latter end of July introduced a long tract of wet weather, moſt injurious to meadow hay, and to all ſorts of grain. The loſs and expenſe are very conſiderable; and even the green crops have been materially injured; firſt by the hurricane of 6th September, which laid or broke down every ſpecies of white and green crop; and afterwards by the froſts of different nights, eſpecially that of the 8th September, which was followed by clear ſunſhine, and blackened the ſtems of potatoes completely. The peas are totally loſt here, in conſequence of the ravages of *aphides*; a few latter bloſſoms appeared after theſe green inſects had periſhed; but theſe were too late to introduce any fruit. Some fields in high ſituations eſcaped, becauſe the bloſſoms did not appear till theſe deſtroyers were gone.

Oats are injured in every way, by laying, ſhaking, or growing; and the ſtraw is very much damaged. The early ſtacked grain is the only part of this crop that ought to be truſted to for ſeed; and much of the oat-meal will be affected by the injuries done to the grain. Had the autumn been good, a full average crop of oats had been obtained; but, as matters ſtand, there muſt be a conſiderable deficiency. *Barley* has been grown on a ſmall ſcale; and what there is, cannot be much recommended. *Wheat* has ſuffered from the ſame cauſes, and is very indifferent in this country. *Potatoes*, in general, appear to be deficient of growth and quality both. *Sown Hay* was light on the ground; but it was the only crop that was finely made and ſtacked. *Turnips* have not failed ſo generally here, as they are reported to have done in other counties; but many of their leaves were broken, and became white by the hurricane of 6th September; and the harveſt has been too moiſt for this crop to be either clean or vigorous.

Prices of Oat-meal 3s. per ſtone; Potatoes 2s. per Moffat peck, which is from ſix to ſeven ſtone avoirdupois weight; Hay, out of the ſummer rick, 1s. to 1s. 2d. per ſtone, and 24 lib. avoirdupois; Barley 4s. and upwards per Wincheſter buſhel. The prices of ſheep and cattle depend on their condition; fat ſells, in retail, at 6d. per lib. avoirdupois; but

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lean ſtock can hardly be ſold at any price. Draught black-faced ewes have been bought at 7s. each, and two ewes to the ſcore; and the ſtirks that ſold at 4l. about Whitſunday, can hardly bring 3l. at the preſent time. Store-farms are in a ſtate of extreme depreſſion at preſent; and they muſt be wealthy farmers that can bear it long, if matters do not improve in their favour; but moſt of this claſs of men, by long tracts of good years and ready markets, are in eaſy circumſtances.

Servants' wages fell very conſiderably at Moffat hiring fair; but theſe were houſehold ſervants. The wages of day-labourers have not yet altered much from their uſual rates, which for ſome time have been generally at 2s. per day; but for mowing hay 2s. 6d. with victuals; and for ſhearing, four weeks only, men obtained near 3l. each with victuals. From theſe rates, the expenſe of ſuch a tedious harveſt, not yet fully home, may be readily conceived.——*30th October.*

Fifeſhire Quarterly Report.

DURING the preceding quarter, the weather was generally variable; much rain fell, with intervals of cold froſty winds in September. Harveſt became general in the beginning of that month; and ſo unequally did the victual ripen, that in ſome parts of the county, on low as well as high land, cutting was only concluded lately. Much victual is ſtill to bring in; but the heavy rains being alternately followed with drying winds, little damage is ſuſtained by the cut corns. The oat crop is not only very thin; but the longer it ſtood, it looked to be leſs ripe, by a ſecond, and even a third growth, ſpringing up and overſhading the firſt; and it muſt be found unproductive. This grain is ſuppoſed to be about one fifth inferior to laſt year; therefore far below an average crop. Peas and beans have failed to a greater extent, moſt of them being deſtroyed by the caterpillar; and where not attacked in this way, the froſt winds prevented them from filling; ſo that a total failure is the conſequence. Barley ſuffered alſo from unequal ripening, but to a leſs extent than oats; the quality is not equal to laſt year, and ſuppoſed below an average.

Wheat is reckoned equal to an average crop, and the quality good. Flax was hurt by the rains, and only a middling crop. Potatoes, which in July promiſed to be moſt abundant, have, in conſequence of the rains and froſt winds, ſuffered exceedingly, and are found to be very deficient in quantity, whilſt the quality is bad and watery. Turnips on dry ground are fine; on wettiſh land not worth any thing. Straw is ſcarce, which has raiſed the price of hay from 1s. to 1s. 6d. per ſtone, and reduced the price of horſes and lean ſtock 25 per cent. Oats in the ſtraw, or corn and fodder, has ſold by roup as high as 36s. per boll, and in ſome caſes at 40s.

The grazier has had a bad buſineſs this year. Loaded with graſs rents enormouſly high, he cannot, at this moment, get but a trifle more for his cattle than he paid in the ſpring; in ſome inſtances the whole rent of the graſs is loſt; and where the cattle are not good fat, even the ſpring prices cannot now be got.

Victual of all kinds being wholeſome, it is not apprehended that a

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city will enſue, although ſome riſe of prices may be expected, eſpeci- on oat-meal. Clover and young wheat have a promiſing appear- e, but the wetneſs has prevented much wheat from being ſown. —30*th October.*

Dumbartonſhire Quarterly Report.

ANOTHER wet harveſt has occurred, to the great loſs of this and er counties. The rains began about the middle of July, and have tinued, with little or no intermiſſion, till the preſent time; conſe- ntly, an account of occurrences is juſt a catalogue of misfortunes. kinds of grain are of a very inferior quality, and the late crops are ripened at all. The potatoes are in many places rotted by the s; even where this has not happened, the quality is very inferior, the quantity ſhort of an average by one half. Much loſs was alſo ained by the growing of the crop in the ſtook. In ſhort, things are ad as a three months rain might be ſuppoſed to occaſion; and the oſpect is ſo painful, that I haſten to finiſh the account. Since the l we have had fine dry weather, which may ſave the remnant of the p in good order.

The groſs injuſtice of taxing Scots bear as high as Engliſh barley, er was more ſtrongly exemplified than it has been this ſeaſon. The ley harveſt of England was finiſhed by the end of Auguſt, except in e parts of the northern counties, with little or no rain. In this ntry, no bear was cut till after the middle of September, when it ſuffered two months of conſtant wetneſs; much of it was not cut lately; and at this time, there is ſome in the diſtrict ſtanding uncut. e relative quality of the produce of the two countries, may therefore eaſily gueſſed at, eſpecially when it is conſidered, that ſince the be- ning of Auguſt we have had very little ſunſhine. It is much to be ed, that the reſtoration of the old rule, or ſome other adequate edy, were applied to this evil; for it cannot be denied, that in ſoil and climate, bear is the only crop under which the ground can ſuitably prepared and laid down to graſs with beſt advantage. It uld have been becoming the landed intereſt, not to have allowed the of taxation which had received the ſanction of a century of practice, be ſwept away without oppoſition. As the matter ſtands, every re ſhould be exerted by them, to have it reſtored; for their intereſt is manently involved in it, while that of the tenantry is comparatively ſient.——31*ſt October.*

Eaſt Lothian Quarterly Report.

HARVEST was a teazing and expenſive buſineſs, though, with a few eptions, the ſeveral crops were ſecured in due time, and in good dition. Wheat and Barley may be equal to the uſual averages; but s, Beans and Peas, are below that ſtandard. The two laſt articles unuſually deficient, both with reſpect to fodder and grain; and, ng to this deficiency, the price of hay has, of late, rapidly advanced. A dreadful ſtorm of wind and rain viſited this diſtrict on the 6th of tember, and occaſioned, not only much injury to the crops which e then uncut, but alſo a ſerious loſs to farmers on the Tyne and er waters. The preceding morning was ſoft and mild; in the after-

noon the wind ſhifted to the ſouth-eaſt, accompanied with a gentle rain of little conſequence; and in this ſtate the weather remained till about eight o'clock in the evening, when the wind ſuddenly ſhifted to the north-eaſt, and blowed with all the fierceneſs of a Weſt Indian hurricane till next day about two in the afternoon, when it partially abated. As two thirds of the crop were then to cut, the loſs from ſhaking would have been incalculable, had not a heavy rain poured on all the time, which beat the crops to the ground, and ſoaked the grain ſo completely, that little or none dropped out. The greateſt loſs was afterward, the corns being ſo twiſted and broke, that any thing like perfect cutting was an impracticable meaſure. Moderately ſpeaking, two additional ſhearers per acre were required to do the like extent of work after the ſtorm as before it. In ſhort, ſuch an autumnal ſtorm never happened in Scotland before; though, as cold hard winds followed, the corn in ſtooks was fit for carrying a few days afterwards.

One bad conſequence of the ſtorm was a general failure of paſture graſs, partly ariſing from the drenching which the ground had received, and partly from the froſty weather which immediately followed. Aftermaths, or clover foggage, alſo were thereby ſtopped in their growth; and apprehenſions were at one time entertained concerning the turnip crop, which fortunately are not realized. Of this valuable eſculent, fewer have been cultivated this year than uſual, though, where ſteady management was exerciſed, the crop is not a bad one. Potatoes have failed in many inſtances; and, being generally houſed in a wet ſtate, there is cauſe to dread that they will not be preſerved in perfection through the winter months.

The ſowing of wheat is tolerably well advanced; and, though much improper weather for executing that important branch of huſbandry occurred, yet, with thoſe who ſtudied to catch opportunity as it appeared, the work has been executed in a huſbandman-like manner. Perhaps one fourth of the wheat land remains to be ſeeded, eſpecially upon the coaſtſide lands, where farmers ſeldom wiſh to ſow ſo early as their brethren do in the internal parts of the diſtrict. A conſiderable quantity of ſpring wheat is annually ſown where turnips are much cultivated.

The wheat market has been uniformly dull for ſeveral months, and at Haddington, it has not been cleared ſince the commencement of harveſt. Thraſhing machines neceſſarily occaſion a large quantity of this grain to be poured into the market in September and October, becauſe the ſummer thraſhed ſtraw is rarely of ſufficient ſtrength to be uſed as thatch for ſtacks. Oats have generally been ſcarce at market; and one day there was not a ſingle bag of beans preſented. The prices of all theſe grains at Haddington have generally equalled, ſometimes exceeded, thoſe at Marklane; and the ſtack yards being, in every place, of a reduced ſize, compared with thoſe of the five preceding years, a falling off in the market ſupply may be looked for, whenever the wholeſale merchants begin their purchaſes.

Live ſtock, through the quarter, has been a falling article; and, from

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the dulneſs of ſale, and the number of cattle and ſheep on hand, it might be inferred, that the conſumption of butcher meat has ſomehow or other leſſened, as the ſeaſon had advanced. It is to be dreaded, that matters are not yet at their worſt; and, as *keep* is ſcanty over all Scotland, that ſerious loſs will be ſuſtained by all thoſe who unfortunately have a large ſtock on hand. The graſs rents promiſed this ſeaſon were not a trifling affair, as was ſtated in ſubſtance at the time when ſets were made; and thoſe who ſpeculated in ſuch undertakings will be *minus* to a greater extent than ever known in this country. It is really too bad, that thoſe ſo circumſtanced ſhould be charged one ſhilling per pound of rent by the property tax commiſſioners, when, in ſome caſes, nearly the whole rent will be loſt; and, in no caſe, the ſlighteſt proſpect of obtaining a ſingle halfpenny of income or renumeration for outlay of money, trouble incurred, and riſks undergone. The evils to farmers which flowed from the Property tax, were predicted at the outſet; and it may now be added, that ſo long as the tax is patiently borne, ſo long will the evils which accompany it be continued. No other members of the community are rated to the Property tax unleſs income is actually poſſeſſed; but in the caſe of farmers, the tax is levied whether they have income or not; nay, even when it is evident to the dulleſt of plodders that their capital ſtock is cut up, and applied to make good unfortunate and unſucceſsful engagements.——*Nov.* 2.

ENGLAND.

Yorkſhire Quarterly Report.

The late harveſt has been generally favourable in point of weather, and the crops of each ſort of grain have been houſed or ſtacked in good condition. Wheat appears to be the beſt crop, though partially affected by mildew. Barley and oats may be ſomewhat leſs than an average; but beans and peas are the worſt crops ever known; which was aſcertained ſome time ſince, from the prevalence of the black louſe or collier—on the beans in particular. The beſt wheat is about 9s.; Barley 5s. 9d. Oats 4s.; Rye 6s.; and Beans 8s. per buſhel of Wincheſter. The ſummer fallowing has not been done completely; of courſe the ſeed wheat, on ſome of them, has been committed to the ground among an abundance of quick roots. The ſowing of the clover leas has been a little retarded by drought; but a ſupply of rain, laſt Thurſday, has rendered them in fine order for work. Turnips of all ſorts, which were ſo promiſing about hoeing time, turn out a miſerable crop in the diſtrict. The grub or worm at the root, is ſuppoſed to be the cauſe of the failure. The preſent full growth of after graſs is but a ſmall compenſation for the loſs; and that is moſt eagerly ſought for, as a mean of keeping forward half fattened cattle and ſheep, for which there is no ſale. The young clovers and ſeeds are very flouriſhing. Clover for ſeed has not been productive. Cattle, ſheep and pigs, are nearly unſaleable, except prime fat, and they are unuſually low; the demand from the great manufacturing towns being very trifling. Even horſes, of all ſorts,

are conſiderably lower in price. Butcher's meat in general about 6d. per lib. Wool lowering. Apples and potatoes are plentiful in the markets. On a review of the whole, the proſpect for the breeder and grazier is unpromiſing. There is a probability that grain will not ſuffer any great depretiation; and that the ſupply throughout the year may prove inadequate to the demand.——*Oct.* 26.

Letter from Wales, October 26th.

'SINCE I laſt wrote you, there has been favourable weather for farm work. The weather during harveſt was fine, and the corn in general has been got together in fine condition. Excepting four or five days' rain in the middle of September, when we began ſowing wheat, we have had no hinderance till yeſterday; and this day we have again had a heavy fall of rain; of courſe, the wheat ſowing in this part is nearly over. We have had this year a good crop of wheat. I do not remember a better ſince I have been a farmer, as it yields well in the barn, and weighs well in the mill; but the markets have been glutted of late, and of courſe the price is low; there being no demand for cattle, money muſt be had. The beſt wheat at the mill is now at 24s. for 168 lib.; ſome as low as 21s. Barley is full as good as was expected on the light ſoils and gravels; but on the clays, in many places, not more than half a crop. Oats, except ſome few fields, where the land was good, have failed in moſt places; and peas and beans, particularly near the ſea-ſide, are worſe than the oats. Turnips look well; and potatoes a middling crop. There has been but little of either barley or oats thraſhed as yet, farmers expecting theſe grains will be ſcarce; but prices are at preſent rather on the drop than otherwiſe, for corn of all kinds. Good horſes and ſheep are the only articles that keep their price;—I may add butter and cheeſe. Butter has fetched 14d. and 15d. the pound moſt of the ſummer. The favourable ſeaſon produced a good ſupply of graſs, and the paſtures are now looking very fine; yet we have a great ſtock of cattle on hand, and if a demand does not ſoon appear, fodder will be very ſhort with many before May-day.'

Norfolk Quarterly Report.

THE corn having ripened early, and a continuance of fine weather after cutting having commenced, together with a crop far from conſiderable in bulk, occaſioned the harveſt to be finiſhed with unuſual celerity, and the corn to be houſed and ſtacked in excellent condition. The ſtatements given in laſt Quarterly Report, have turned out pretty correct; wheat exceeding an average crop; but barley and oats are only two thirds of a crop. Peas, however, are an exception. This grain was ſtated at one third of a crop; but it is now aſcertained that they will not average four buſhels per acre. An inſtance might be given, and that not a ſolitary one, where two fair harveſt bargains were thraſhed, and the produce was only ſeven pecks. The country in fact has not grown ſeed ſufficient for the quantity of land uſually ſown, though probably as much as will be required next ſeaſon; for many perſons will be deterred from ſowing ſo precarious a crop as peas always are, at ſo heavy an expenſe as the firſt inſtance for ſeed. The weather, ſince harveſt, has been highly favourable for getting the wheat into the ground in the light ſoils,

ſoils, and there remains little to be done; indeed the young plants are generally up, and much already covering the ground. In ſtrong ſoils, the work has been retarded by drought. Fine rains, however, have fallen in the courſe of a few days, which will permit the whole to be finiſhed in good time. Stock of every deſcription (good cart-horſes excepted, which have ſold here at moſt extraordinary prices), have been bought at very low rates. Cows, with calves by their ſides, have ſold from ſeven to eight guineas this year, which, in the laſt, would have obtained more than double that price; and this difference in value is to be attributed chiefly, if not ſolely, to the very general failure in the turnip crop, and to a ſhort ſupply of ſtraw for the cattle.

The young artificial graſſes are unuſually promiſing, and every where a full vigorous plant. Winter vetches, like wheat, have been early put to the ground, and promiſe well. Many artificial and unforeſeen cauſes ſo often happen to raiſe or depreſs the value of corn in the market, that it is extremely difficult to ſpeculate with any degree of confidence on the price for the remainder of the ſeaſon; but, if an opinion may be hazarded, it would be,—that wheat will not maintain its preſent price, and that barley will exceed it. The determination of the diſpute with America will probably have ſome effects on the price of the former article.——*27th October.*

Letter from a Gentleman in Cumberland, October 27.

"THE weather during the three laſt months, has been very variable. Barley and oats, in the upland parts of the county, have been much injured by the inclement ſeaſon. Wheat has in general been ſecured without any conſiderable injury. The produce of wheat, quantity and quality conſidered, is equal to any crop we have had theſe ſome years paſt. On good ſoil, it yields upwards of 30 Wincheſter buſhels per acre. On inferior and light ſoils, particularly where nothing had been neglected, it does not afford upwards of 25 or 27 Wincheſter buſhels. Barley would have been a good crop, had not the continued fall of rain injured it. In many caſes it is fit only for hogs. In the month of September, the fall of rain was nine inches and a half, five of which fell in one day. You may hence infer the injury which grain has ſuffered, ſince the enſuing month has almoſt been uniformly wet. There are ſome hundred ſhocks of barley and oats yet unſecured. Two thirds of the county have houſed their crop without any material injury. Oats are by no means an average crop; and in a conſiderable part of the county, they have been damaged by the heavy fall of rain. Turnips are better than was once expected. Peas and beans have uniformly failed. Milch cows ſell well; Heifers very indifferently. Horſes bring good prices.

"J. C. Curwen, Eſq. deſerves the thanks of the county for his exertions in advancing agricultural knowledge. The Workington Society, of which he is preſident, met on the 2d of October, when eight hundred dined, and a very conſiderable number of premiums were given; the report you ſhall have when publiſhed. It will require a conſiderable degree of prudence, diſintereſtedneſs and perſeverance, on the part of the preſi-

dent, to effect any thing beneficial to the agricultural intereſts of Cumberland. Want of diviſion of labour, in conſequence of ſmall farms, tithes, ſhort leaſes, ignorance and negligence, preſent a barrier againſt agricultural improvements, which nothing but generoſity in the landlords, a liberal and enlightened policy in church and ſtate, the ſucceſsful efforts of enlightened and ſpirited farmers, can ever overcome.'

Letter from the Eaſt Riding of Yorkſhire.—October 27th.

'SINCE my laſt letter, the weather has, upon the whole, been rather dry, conſequently the harveſt work was well executed, at an earlier period than uſual in this diſtrict; which allowed an opportunity (and that has not been neglected) to get a great deal of autumnal work done. The wheat ſeeding is far advanced, and executed, in general, in a good ſtyle. The crop of wheat in this diſtrict is a good one, exceeding an average crop, and ſuperior to that of laſt year, both in quantity and quality. Oats will be ſhort of laſt year, perhaps one-fourth; and beans will not exceed one-half of a crop. Barley is alſo ſuppoſed to be under an average; and comes to hand poor in quality. Beans were deſtroyed by a fly, of the ſame ſpecies as affected the pea crop; but I am certain the crop was deſtroyed where no ſuch fly could be found. The pea crop has failed moſt ſeverely; in great numbers of inſtances, there are no return at all; and where the failure is not ſo fatal, the crop will not be ſufficient for next ſpring ſeeding. Turnips are a partial crop. Upon indifferent ſoils they are bad, but on good ſoils they are not amiſs; they are ſelling at what we call a high price, viz. from four to ſix guineas per acre, to be eaten with ſheep. I believe the failure of the crop in the Weſt Riding of Yorkſhire, and the more ſouthern diſtricts, is the chief cauſe of the high price given here; as the ſheep breeders upon the wolds cannot ſell their ſheep, the numbers ſhown at the different fairs exceed all precedent. Potatoes turn up a light crop, being very ſmall, and ſelling very high; the preſent price is 12s. per tub, which contains about 14 pecks Wincheſter.—I believe the meaſure is generally made of a porter barrel, which contains 36 gallons; one end being taken out, and that filled a little above the edge. Flax is in general very ſhort, and likely to prove a bad crop. Cattle and ſheep, both fat and lean, have a dull ſale. Fat cattle at 5s. and 6s. per ſtone, ſink; ſheep 4½d. to 6d. per lib. do.; pork 6s. to 6s. 6d. per ſtone. Lean cattle and ſheep are full 30 *per cent.* lower in price than they were twelve months ago. Our grain markets are very dull at preſent. Wheat ſells at 63s. to 68s. Oats 23s. to 32s. Beans 54s. to 56s. Barley 38s. to 42s. per quarter, Wincheſter.

Letter from London, October 27th.

'THE information given in our laſt reſpecting the crops of grain, has in general been realized. Wheat, in all the ſouthern diſtricts of the iſland, is conſidered as a great crop, and of fine quality, having been in general houſed in the beſt condition. Barley is under an average; and oats will alſo be conſiderably deficient in quantity. The pea crop is univerſally bad, whole diſtricts ſcarce returning the ſeed; and beans, from the beſt information, [illegible] ſhort crop.

'The

'The ſupply of new wheat has been pretty liberal, and, in general, of good quality; though ſome of the runs of Kentiſh wheats have been rough. The ſupply of barley has been ſhort, and fine ſamples have been taken off at high prices for malting. Other grains have been on the advance, eſpecially boiling peas, which have ſold ſo high as 8l. 8s. per quarter, but are now on the decline, probably from the very high price having materially affected the conſumption. The ſupply of beans has been ſmall; and great part of the new oats at market (chiefly from the North) have been ſoft. But as we have had no foreign importation of late to come in competition with them, they have ſold at good prices.

'The probable price of this article in the ſpring will depend much on the proſpect of receiving foreign ſupplies, which at preſent ſeems to be doubtful.'

Letter from a Farmer near Wakefield, Oct. 28.

'We had a favourable harveſt, and the crop is ſecured in excellent condition. Wheat is conſidered as a full average crop; but does not yield ſo well under the flail as laſt year. Barley is pretty good in quantity, but the quality inferior to laſt year, being much of it coarſe and thin. Oats and beans are very deficient, particularly the latter, and alſo peas; both of which were attacked with the fly and mildew, as mentioned in my laſt; but to a much greater extent than at that time apprehended. Peas, in many places, were quite deſtroyed; and ſeveral fields of beans will not produce the ſeed ſown. In conſequence of this, that grain has got to a very high price, and is likely to remain ſo during winter. Indeed, every kind of winter feed is likely to be ſcarce, eſpecially as turnips in this circuit have failed. They promiſed well till the middle of Auguſt, when they were attacked with a diſeaſe ſomething like the beans. The leaves curled and dried away; the root, in many places, rotted; and thoſe that remain are ſmall, hard as wood, and taſteleſs; ſo that they can afford little nutriment to the cattle. In conſequence of this and the ſtagnation in trade, both lean and fat ſtock have conſiderably lowered in price, I think full 15 per cent. on an average, which has cauſed grazing to be a loſing buſineſs, especially to thoſe that have kept their ſtock till the latter end of the year. Cattle have not fed well, and there is much half fatted ſtock in the markets, which ſells very low, in conſequence of the ſcarcity of winter feed. Beef, 5s. 4d. to 6s. per ſtone of 14 lib. ſink; mutton, 5½d. to 6d. per lib. ſink; very fat wethers a little more.

Our wheat-ſeed ſeaſon has been, and is at this time, very favourable. The wet land was got ſown in excellent tilth. Some fine rain which fell on the 22d inſtant, brought the dry lands into good order, which are now ploughing kindly, and receiving the grain very well. In conſequence of the diſaffection of our ancient allies, and the diſtreſs that pervades a great part of the Continent, we have the proſpect of a very gloomy winter: our mercantile men have ſuffered great loſſes; and many failures, in conſequence, have occurred, and many more expect-

ed. This, of courſe, throws a great many of the lower claſſes out of employment, and will eventually affect the farming intereſt. The conſumption of the produce of the ſoil muſt be greatly leſſened; many of the poor thrown upon the pariſh; and thereby become a burden upon land, which is already ſaddled with an intolerable expenſe. I am aſtoniſhed at the high rents given for land in your country; your public burdens muſt be much leſs than ours, otherwiſe ſuch rents could not be paid."

Northumberland Quarterly Report.

Through the month of Auguſt, and to the ſixth of September, we were favoured with fine weather. On that day, a great quantity of rain fell, and occaſioned in many rivers one of the higheſt floods ever remembered, by which conſiderable loſſes were ſuſtained. Great quantities of corn were ſwept away, and what remained uncut was much injured by the water ſtanding upon, or running over it: ſince that time, we have ſcarcely had two fair days together, which has made the harveſt very precarious and tedious; and the greateſt part of the crop has been carried in an indifferent ſtate. It is believed that there are few inſtances of ſprouted grain, the weather being generally cold. This long ſeries of wet weather prevented the ſummer fallows for wheat from being got into proper condition, and many yet remain unſown.

The autumn ſown wheat is in general below an average crop, but the grain good in quality. The ſpring ſown wheat was moſtly ruſted in the ſtraw, and very late: two froſty nights in September turned it white, but added little to the ripening; of courſe, it will be found very deficient in produce and quality. Oats and barley may be taken as fair average crops. Beans and peas are conſiderably below an average.

In the county of Durham there are very few crops of either peas or beans worth reaping; and in ſome parts of Yorkſhire they are alſo very deficient. The wheat crop in thoſe diſtricts was ſcarcely ever known to be better, the grain preſenting a fine ſample, and very weighty.

The turnip crop upon dry ſoils which were early ſown, are remarkably good; thoſe that were ſown later, are equally deficient; and the cold wet weather ſince the ſixth of September has very much impeded their growth, the bulbs having increaſed very little in ſize during that period. The caſe is the ſame in the turnip diſtricts of Durham and the North Riding of Yorkſhire.

The markets for live ſtock of every deſcription have been lowering from week to week. At St Ninians fair on the 27th September, long woolled ewes were ſold from 32s. to 35s. per head; which is from 6s. to 9s. lower than the ſame flocks were ſold for laſt year; and, at Woolaw fair on the 17th October, they were ſold for 28 and 30s. per head leſs than at St Ninians, and 12s. or 13s. lower than they were ſold for two years ſince, at the ſame fair.

The beſt price for fat cattle at St Ninians fair was 6s. per ſtone of 16lb. ſink. And at Morpeth laſt week, little more than 5s. per ſtone was given. At Yarne fair, on the 19th, lean cattle were ſold about 20 per cent. lower than for ſome years preceding.——29. *October.*

Extract

Extract of a Letter from a reſpectable Farmer in Kent, November 2d.

'Our crop of wheat is very good, and the quality exceedingly fine. Early ſown barley is alſo good; but the middle ſown is very indifferent, and the latter barleys are very ſhort in produce. The ſame may be ſaid of oats in general. Beans and peas have not totally failed, but they are the worſt crop I ever knew. Hops are better than we expected; upon the whole, we count them a good *half crop*. Orchard fruit plentiful. Hay a ſhort produce, but well got up. Autumn graſs very ſcarce; and lean cattle and ſheep, in conſequence, are much fallen in price. Beef and mutton are alſo much reduced in price; but fat ſtock is expected to be very ſcarce in the ſpring. You aſk my opinion as to the probable prices of our crops; I cannot ſay what they may be ſome time hence; but the beſt new wheat at preſent is worth 64s. per quarter of 8 Wincheſter buſhels; and fine flour ſells very dull at 55s. per ſack of 5 buſhels, each 56 lib. avoirdupois.

'On account of the failure of the crops of beans and peas, there muſt be a great quantity of barley conſumed in fattening hogs and pigs, which, added to the failure of the late crops of barley, will neceſſarily make that article ſell high, and may perhaps be a recompenſe to the farmers for the loſs of their beans and peas. We have had a dry autumn, and I ſhould have thought that your crops ere this muſt have all been well harveſted. Your account of injury from rain has ſurpriſed me much.'

NOTICES TO CORRESPONDENTS.

The valuable papers tranſmitted by our reſpectable friend, Sir John Sinclair, Bart., relative to Highland Huſbandry, and the Cauſes and Conſequences of Emigration, ſhall be duly attended to. We will endeavour to preſent them all at once, ſo as a full view may be obtained of theſe important ſubjects.

The "*Sketch of the Antient and Preſent State of Stirlingſhire Huſbandry*," promiſed by our reſpectable Correſpondent in that diſtrict, will be highly acceptable. It is our intention to extend thoſe Sketches to the whole of Scotland, thereby furniſhing our Readers with correct Pictures of Huſbandry in all its branches.—A Sketch of Eaſt Lothian Huſbandry ſhall be given as early as poſſible.

A "*Reply to* Baron Hepburn's *Outline View of the Corn Laws, with their Cauſes and Effects*," is received, which ſhall be preſented in our next.

A great Number of Communications have lately come to hand, which ſhall be regularly attended to.

We are ſorry that, from want of room, the "*Letter of Intelligence from Langholm*," and various Quarterly Reports, could not be inſerted.

No. XXXIII. will be Publiſhed on the Firſt Monday of March.——By putting the Publication of each Number a Month back, we will be enabled to furniſh our Readers with a fuller View of the Operations of each Seaſon than hitherto practicable.

INDEX.

INDEX.

A

Aberdeenſhire, quarterly reports from, 106, 252, 393, 536.

Agricultural intelligence, 99, 242, 383, 519.

Agricultural publications, review of—Practical Agriculture, or a complete ſyſtem of modern huſbandry, with the methods of planting and management of live ſtock, by Dr Dickſon, 221.

Agriculture, account of an accidental improvement in, 180.—On the actual ſtate of, in Ayrſhire, 311.—In Tweedale, 325.—In the Highlands, curſory remarks on the preſent ſtate of, 500.

Annandale, quarterly reports from, 103, 387, 537.

Arator, letter from on flax huſbandry, 57.

Argyleſhire, quarterly report from, 105.

Ayr, letter of intelligence from a gentleman in, 522.

Ayrſhire, diſſertation on the huſbandry of, 311.—Objection to the cultivation of beans there, 315.—Turnips not much cultivated, *ibid.*

B

Banffſhire, quarterly reports from, 105, 389, 522.

Berwickſhire, quarterly reports from, 112, 255, 395, 534.

Botany, advantages attending the farmer who is acquainted with the ſcience of, 159.

Buchan, on the huſbandry of, 344.—Quarterly report from, 527.

Butter, recipe for ſalting, 60.

C

Caithneſs, letter from a gentleman who lately viſited that county, 385.—Hints regarding the beſt rotation of crops in the county of, communicated by Sir John Sinclair, Bart. 417.—Obſervations thereon by Mr Archibald Dudgeon, 418.—Do. by Mr Middleton, 420.

Caledonian inſurance company, letter from Mr Braidwood manager of, on the inſurance of farm ſtock, 379.

Campbell, Mr, letter from on the cultivation of potatoes, 284 and of turnips,

Canterbury, ſtate of markets at, 126.—Letter of intelligence from, 264.

Carrick, letters of intelligence from, 113, 250, 387.

Cart-wheels, on the conſtruction of, with two figures, 97.

Cheeſe, mode of manufacturing it in Ayrſhire, 318.

Clackmannanſhire ploughing match, particulars of, 247.

Corn-markets, inquiry into the nature and fluctuation of, 22.—Conductor's note thereon, 37.—Remarks on the above inquiry, 453.—Note by the Conductor, 464.

Corn ſtacks, recipe for keeping them clear of rats and mice, 452.

Coventry, Dr, obſervations on his pamphlet on live ſtock by Mr Bitwell, 5.

Cows, compariſon on feeding them with hay and oatſtraw, 300.—Management of thoſe in Ayrſhire deſcribed, 319.

Cropping, mode of adopted in Eaſt Kent, 46.

Cullamond, true ſtate of the judicial proceedings betwixt the heritors and miniſter of the pariſh of, 187.

Cumberland, letters from a gentleman in county of, 407, 543.

Curl in potatoes, cauſes of and cure, 150.

D

Dairy, account of the management of in Ayrſhire, 318.—Breed of milch cows deſcribed, 319.

Dempſter, George, Eſq. dedication to him of this volume of the magazine, 1.

Diſtillery laws, remarks on the Roſsſhire reſolutions concerning them, 174.

Diſtilleries Lowland and Highland, letter concerning from Sir Geo. Mackenzie, Bart. 375.—His ſtatements diſproved, 377.

Dudgeon, Thomas, Eſq. Eſſay by him on the cultivation of kelp, 40.

Dudgeon, Mr Archibald, letter from on the cultivation of wheat in the northern diſtricts, 418.

Dumbartonſhire, quarterly reports from, 117, 391. 539.

Dumfrieſſhire, quarterly reports from, 115, 256, 388, 531.—Remarks on the huſbandry of, 309.

E

East Lothian fiars for 1806, liſt of, 143.

Eddleſtone club, eſſay given in to on thirlage, 9.

England, agricultural intelligence reſpecting, 262, 402, 541.

Eſſex, quarterly report from, 124.

Evening ſchools, ſtrictures on the propoſal for inſtituting them for farm ſervants, 338.—The plan thought unneceſſary, *ibid.*

F

Falkirk, letters of intelligence from, 110, 257, 394, 524.

Farm offices, deſcription of a ſuite of for a farm of 300 acres, adapted to turnip huſbandry, with plate, 271.

Farm-ſervants, ſtrictures on the propoſal of inſtituting evening ſchools for the inſtruction of, 338.

Farm ſtock, plan by the Caledonian inſurance company for inſurance of, 379.

Fences, brief ſtatement of a law proceſs concerning them, 215.—Opinion of the Conductor thereon, 218.—The leaſe betwixt parties conſidered to be the alone rule of aſcertaining the validity of every claim advanced by the one againſt the other, becauſe there is no common law on the ſubject, 219.

Fiars, Eaſt Lothian, for 1806, with a ſtate of the proof taken to aſcertain them, 143.

Fifeſhire, quarterly reports from, 113, 258, 401, 538.

Flax huſbandry, letter on, to Andrew Wight, Eſq. 58.

Forfarſhire, quarterly reports from, 111, 254, 397, 533.

France, on the huſbandry of, with obſervations on the former condition of its cultivators, 303.

Free martins, hints concerning, 466.

G

Galloway cattle, ſome particulars of, 78.—On the huſbandry of, 348. Comparative view of the value of land in that diſtrict and in the county of Haddington, 349.—Replication by Arator, 353. Note by Conductor, 358.

Glaſgow, letters of intelligence from, 116, 253, 396, 535.

Green crops and wheat, conſidered as the articles that yield the greateſt profit to the farmer, 213.—Not to be obtained without plenty of dung, 214.

Grenville, Lord, the benefits reſulting from his bill relative to the adminiſtration of civil juſtice in Scotland illuſtrated, 243.—The utility of trial by jury in civil caſes deſcribed, 245.

H

Haddington, letter of intelligence from, 409.

Harveſt work, how conducted by Mr Jamieſon at Barnhill, 369.

Highland husbandry, ſtrictures on, 169.

Highlands of Scotland, curſory remarks on the preſent ſtate of agriculture and rural economy in, 500.

Holdernaſs Agricultural Society, queſtions diſcuſſed at the ſeveral meetings of, 182.

Horſes, a new edition of language to recommended to, 51.

Huſbandry, particulars reſpecting that of Eaſt Kent, 46.—Opinion of the Conductor thereon, 50.—Of Wigtonſhire, deſcription of, 61.—Of Roxburghſhire, on the ancient ſtate of, 166.—*Thirders* and *teinders*, a claſs of husbandmen agreeing in many particulars to that of the *metayers* in France, formerly prevalent in that county, *ib.*—Roup roll of one of theſe tenants in 1748, 167.—Of France, obſervations on the paſt and preſent ſtate of, 303.—Remarks on that of Dumfries and Ayrſhires, 309.—Diſſertation on that of Ayrſhire, 311.—Of Buchan, 344.—Of Galloway, 348.—Of Perthſhire, 425.

I

Jamieſon, Mr, his farm at Barnhill deſcribed, 87.—Account of his threſhing machine, 202.—Of his turnip huſbandry, 206.—Advice by, to a young farmer, 474.

Implements, deſcription of thoſe uſed in the improved culture of potatoes, 285.—Of turnips, 414.

Improvements, Scottiſh, beneficial conſequences of them to the public, 154.—Various recent ones pointed out, and the Farmer's Magazine characterized as the beſt medium for conveying a particular deſcription of, 155.

Intelligence, Agricultural, leading articles of, 99, 242, 383, 519.—Literary, concerning the firſt volume of Chalmers's Caledonia, 381.—The Code of Health and Longevity, by Sir John Sinclair, Bart. *ibid.*—A View of the Mineralogy, Agriculture, &c. of the Iſland of Arran, 382.—Prize Eſſays and Tranſactions of the Highland Society of Scotland, *ib.*—The Shepherd's Guide

Inglis, Mr, letter from on the cauſe and cure of curl in potatoes, 150.
Inverneſſſhire, quarterly reports from, 119, 521.—Eſſay on the paſt and preſent ſtate of husbandry in, 161.—Letters of intelligence from, 249, 526.
Ireland, view of the preſent ſtate of the population and husbandry of Wexford, 135.

K

Keith, Dr, letter from on the experiments to aſcertain the value of Engliſh and Scotch barley and bigg when malted, 360.—Obſervations by him on the papers preſented to the Houſe of Commons concerning theſe experiments, 476.
Kelp, Eſſay on the cultivation of, 40.
Kent, letters of intelligence from, 126, 547.
Kentiſh huſbandry, ſome particulars reſpecting, 46.
Kitchen garden, on the utility of a farmer underſtanding the proper cultivation of, 159.
Kincardineſhire, quarterly report from, 116.

L

Labour, remarks on the high rate of, 52.—Reply, 339.
Langholm, letters of intelligence from, 118, 396.
Language, a new edition of to horſes, recommended, 51.
Lanarkſhire Upper Ward, quarterly report from, 249.
Letters from a young farmer to his father, 88.
Letter on the paſt and preſent ſtate of Ireland, 135.—Note thereon by the Conductor, 142.
Lime, information requested concerning the application of, 168.
Lincolnſhire, letters of intelligence from, 122, 265, 406.
Lincolnſhire Fens, application to the Right Honourable Sir Joſeph Banks, chairman of the meetings for draining theſe fens, with his reply thereto, 265.
Live ſtock, obſervations on, by Mr Sitwell, 5.
London, letters of intelligence from, 129, 268, 407, 544.
London markets, ſtates of, 129, 269, 408.
Lothian, Mid, quarterly reports from, 108, 259, 399, 529.
Lothian, Eaſt, quarterly reports from, 121, 261, 402, 539.
Lowlands, letters of intelligence from, 127.

M

Mackenzie, Sir George, Bart. letter from, on the diſtilleries of the Lowlands and Highlands, 375.—Errors therein pointed out, 377.
Mackenzie, Mr, letter from, on the cultivation of waſte lands, 422.
Malt, remarks by Dr Skene Keith, on the experiments by Drs Hope, Coventry and Thompſon, to aſcertain the value of Engliſh and Scotch Barley and Bigg, when uſed for, 360.—Obſervations on their report to the Houſe of Commons, 476.
Manure, conſidered as the magic wand of the farmer, 214.
Markets, ſtate of in London, 129, 269, 408.
Markets, ſtate of thoſe in Glaſgow, 116, 253, 397.
Middleton, George, Eſq; letter from, on the beſt rotation of crops in Caithneſs, 420.
Moray ſhire, quarterly reports from, 119, 260, 526.

N

Norfolk, quarterly reports from, 124, 263, 403, 542.
Northumberland, quarterly reports from, 128, 262, 405, 546.
Notices to correſpondents, 134, 270, 410, 547.

O

Oats, benefit of harrowing them when ſeveral inches above the ground, 180.
Obituary—Account of General Fletcher Campbell, 131.—Of William Law, Eſq., 133.—Of Alexander Fraſer, Eſq., *ib.*

P

Perthſhire, quarterly reports from, 253, 392, 533.
Perthſhire, general deſcription of the paſt and preſent ſtate of huſbandry in, 425.—Thraſhing machines numerous in that county, 440.—Reaſon aſſigned that they were firſt invented there, *ib.*—Fanners hardly known fifty years ago, 441.—Their introduction oppoſed by a Reverend Clergyman, 442.—Deſcription of farm ſteadings, 443.
Plough, or Paring Hoe, directions concerning, 290.
Ploughing Matches, eſſay on, by Leonidas, 151.—Note thereon by conductor, 154.
Ploughing Match in Clackmannanſhire, account of, 247.

Potatoes, on the cultivation of, with figures of the implements uſed therein, 284.—On the preſervation of, 451.—Excellent food for ſheep, *ib.*

Potatoes, the cauſe of curl in, 150.

Population—Obſervation on Dr Paley's eſſay on that ſubject, 33.—Proviſions do not increaſe in the ſame ratio with population, 34.

Premiums, liſt of offered, by Mr Sitwell at his ſheep ſhow, 103.—by the Smithfield club, 301.

Property tax—Remarks on its ſeverity as affecting farmers, 101.—Attempts to obtain relief from, 384.

Proviſions, remarks on the prices of, 52.—Reply thereto, 339.

Q

Queſtions diſcuſſed by the Holdernefs Agricultural Society from 2d December 1795 to 3d December 1804 inclusive, liſt of, 182.

R

Rats and Mice, recipe for killing, 452.

Regiſter—Dates of ſowing and ſhearing from 1773 to 1806 in Lanark and Peebleſhires, 332.

Rent, remarks on the high rate of, 52.—Reply thereto, 336.

Roſſhire, Reſolutions of the gentlemen of that county reſpecting the diſtillery laws, 177.

Roſſhire, quarterly reports from, 109, 401, 527.

Roxburghſhire, on the ancient huſbandry of, 166.

S

Scotland, agricultural intelligence reſpecting, 103, 247, 385, 521.

Scottiſh improvements—On the utility of noticing them, 154.

Selkirk, quarterly reports from, 104, 521.

Sheep, on the ſmearing of, reply to A. S. 93.

Sheep, account of the method of breeding and feeding that animal in Ayrſhire, 322.

Sinclair, Sir John, Bart. inquiry into the nature and fluctuation of the corn trade, addreſſed to, 22.

Sinclair, Sir John, Bart. hints by, regarding the proper rotation of crops in the county of Caithneſs, 417.

Sitwell, Francis, Eſq., reply to his obſervation on Dr Coventry's pamphlet on live ſtock, by a Yorkſhire farmer, 342.

Sitwell, Francis, Eſq., obſervations by him on Dr Coventry's pamphlet on live ſtock, 5.—Premiums offered at his ſheep ſhow, 103.

Skene Keith, Dr, letter from on the experiments to aſcertain the value of Engliſh and Scotch Barley and Bigg when malted, 360.—Obſervations by him on the papers preſented to the Houſe of Commons on that ſubject, 476.

Smart, John, information requeſted by him as to the means of counteracting the pernicious effects of certain ſheep paſtures, 149.

Smearing of ſheep, advantages of, pointed out, 94.

Smithfield Club, account of, and the proceedings at laſt Chriſtmas ſhow, 189.—Premiums given by them, and to whom, 193, *et ſeq.*—New members balloted, 201.—Premiums offered for 1807, 301

Smut of Wheat, queries relative to, 50.

Soils, of a thin nature, the moſt proper management of deſcribed, 80.

Soiling, advantages thereof pointed out, and objections to the practice anſwered, 209.

Sparrows, Query concerning the beſt way of deſtroying them, 452.

Spring Wheat, mode of cultivating it explained, 100.

Stirlingſhire, (Weſt), quarterly reports from, 250, 398, 528.

T

Thirlage Act, Eſſay on, given in to Edbleſtone club, 9.—Note thereon by the Conductor, 19.—additional information on thirlage, 20.—Memorial on the queſtion whether a farmer is liable to dry multures when he purchaſes wheat bread, with a legal opinion thereon, 21.

Thraſhing Machine—Deſcription of one lately invented in Perthſhire, 465.—Of a ſcutching kind moved by water, which may be erected for ten pounds, *ib.*—thraſhes from three to four bolls of oats per hour, 466.

Tour through the Highland and Weſtern Diſtricts, made in May and June 1807, 500.

Trees, Hints anent planting, 181.

Trenching Plough, information concerning, requeſted, 149.

Turnip Huſbandry—Plan and deſcription of farm offices adapted to 300 acres of ground under that culture, 271.

Turnip

Turnip Husbandry, Essay on, by the Rev. Mr Campbell, with figures of some implements used in cultivating that root, 411.
Tweeddale, on the progressive improvement of agriculture in, 325.
Tweeddale, quarterly reports from, 107, 249, 390.

W

Wakefield, letters of intelligence from a farmer in the neighbourhood of, 402, 545.
Wales, letters of intelligence from, 130, 406, 542.
Waste Lands, hints respecting the culture of, 422.
Wexford, Ireland, view of the ancient state and settlement of the English in the county of, 135.
Weston, Richard, Esq., Fragment by him on the utility of a farmer understanding the proper cultivation of a kitchen garden, 159.—A short account of that gentleman, and a list of the books published by him, 160.
Wheat, queries relative to smut of, 50.
Wheat, quantity of, deponed to before the Sheriff of Haddington in the process for ascertaining the fiars in 1806, 143.—Comparative view betwixt and the proof taken in the two preceding years, 146.
Wheat, Inquiries whether that grain can be profitably cultivated in Caithness and other northern districts of Scotland, 417.
Whitbread, Samuel, Esq., the utility of his bill for instituting parochial schools in England pointed out, 246.
Wight, Andrew, Esq., letter to him on flax husbandry, 58.
Wigtonshire, Essay on the husbandry of, 61.
Wigtonshire, quarterly reports from, 251, 390, 528.
Wigtonshire, thoughts on the value of land in, 348.—Considered as greatly inferior to that of similar soils in the county of Haddington, 349.—This inferiority alleged by Arator to be greatly exaggerated, 353.
Wigtonshire Farming Society—Note by the Conductor on certain resolutions published by them in the newspapers, 358.
Wool, clothing, account of sales made at Dublin, Dec. 1806, 186.—Prices obtained that year by General Robertson of Lude in Perthshire, *ib.*

Y

Yorkshire, letters of intelligence from a farmer in, 123.
Yorkshire, East Riding, letters of intelligence from, 125, 406, 544.
Yorkshire, quarterly reports from, 127, 269, 408, 541.
Young Farmer, letters from to his father, 88, 201, 366, 467.

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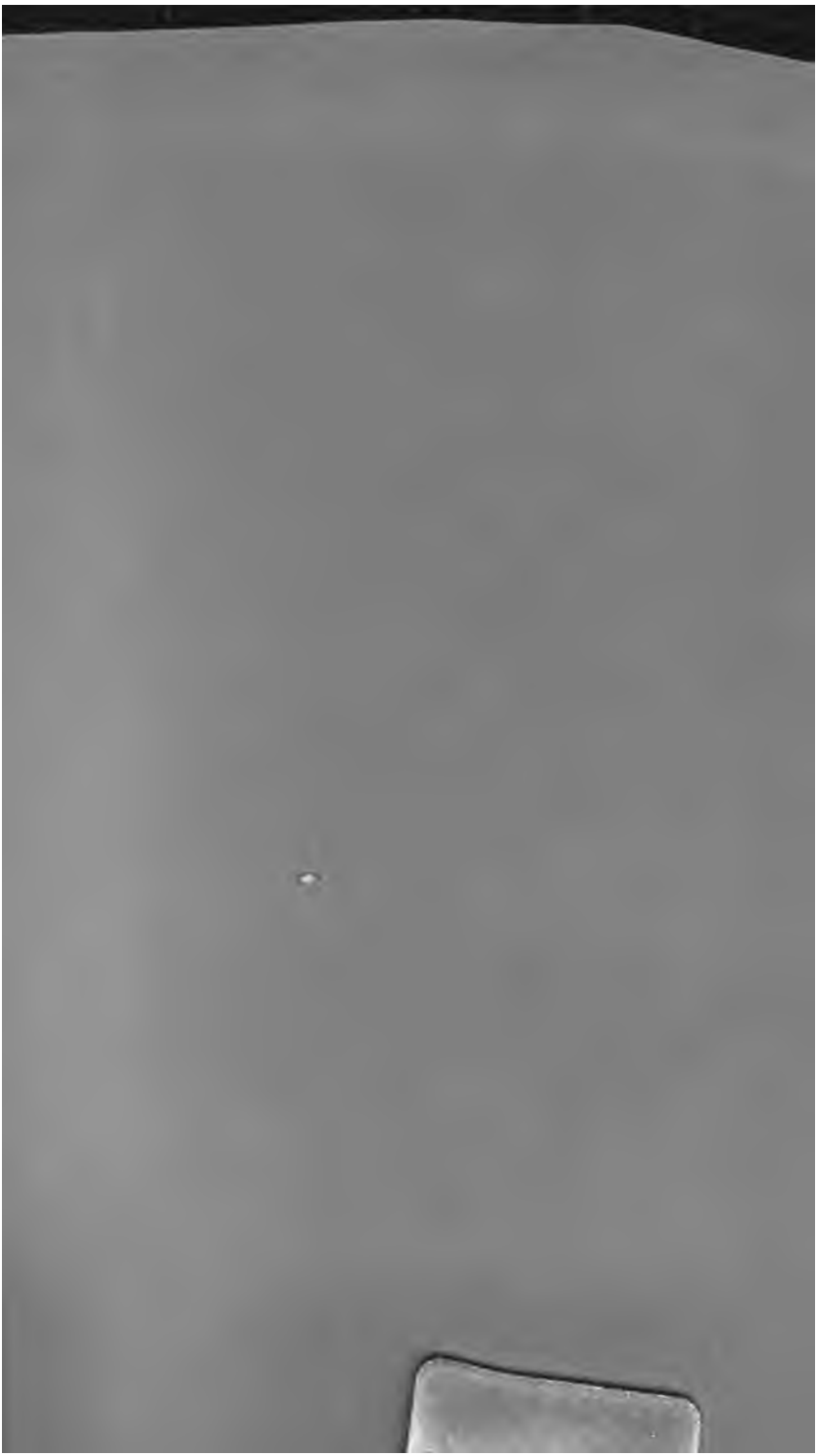

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